

small air forces observer

US \$2.00



vol 11 no 4 (44)

October 1987

small air forces observer

the newsletter of the Small Air Forces Clearing House

TABLE OF CONTENTS

Abstracts.....	93
Swedish and Austrian SAAB 105 (Devins).....	96
Letters (Douglas, Devins, Mirkovic, & Moore).....	102
MiG Mania: Rumania, Somalia, Sri Lanka, & Syria (Waters).....	103
Letters (Przymusiala, Kowalski, Petz, & Lee).....	107
Reviews (Pioneer MiG-15 & Horten IX, Replica resin kits, Roberts Models, Ventrue decals, THE SECOND TRANSATLANTIC FLIGHT, LETADLA CESKOSLOVENSKYCH PILOTU, SONDERMARKKIERUNGEN DER KUK 1916-1918, GODLO I BARWA W LOTNICTWIE POLSKIM 1919-1945, DOUGLAS A-3 SKYWARRIOR, Air Enterprise Publications, Austrian Air Force books, INDEX TO MODEL PUBLICATIONS).....	108
The Polikarpov I-153 in Spain? (Haycraft)...	115
Iranian Islamic Revolutionary F-5E (Hellstrom).....	119

SAFO EDITORIAL POLICY; The purpose of the SAFCH is to "promote interest in the history and modeling of the aircraft of the smaller countries". In support of this goal, the SAFCH encourages international cooperation in researching the history of aviation on all aspects of aviation, both military and civil, from all periods of time, and for all the smaller countries. In return for this support, members are asked to submit occasional progress reports for publication in the SAFO. While the final results should appear in the most prestigious publication possible, it is requested that the SAFCH be mentioned (with address) in the article and that SAFO be afforded the opportunity of reprinting the material.

SUBSCRIPTION RATE: Subscription to the current volume of the SAFO is US \$7.00 for 4 issues per year via surface mail. For air mail delivery, add \$6.50 for Europe and Latin America or \$8.25 for Asia, African, and Australia. New subscriptions begin with all issues of the volume current at the time payment is received; if you desire otherwise, please specify with your payment which issues are desired. Send remittance to Jim Sanders, 27965 Berwick Dr., Carmel, CA 93923 USA. You can also have your bank transfer money directly to the SAFCH bank account: Routing # 3220-7021-3; Coast Saving and Loan, 137 Carmel Valley, 27845 Berwick Dr., Carmel, CA 93923; Credit to James V. Sanders, Account number 03105350.

BACK ISSUES: Either Back issues or Xerox copies of out-of-print issues are available for all issues of the SAFO published. For a list of back issues and their costs, see the "SAFCH Sales Service" sheet in this issue. For a list of all issues and their content, send two 1st class stamps (or 2 IRCs) to the editorial office.

SMALL AIR FORCES OBSERVER (USPS 439-450) is published quarterly for \$7.00 per year by the Small Air Forces Clearing House, 27965 Berwick Dr., Carmel, CA 93923. Second class postage paid at Carmel Valley, CA 93924. POSTMASTER:

send address changes to Small Air Forces Clearing House 27965 Berwick Dr., Carmel, CA 93923.

INFORMATION FOR AUTHORS: Manuscripts may be submitted in any form; authors whose first language is not English may submit a rough translation of the text and the editorial office will put it into good English. Authors using a computer and Microsoft Word should consider sending the manuscript on disc. Photo should be black and white prints although color prints can be used. If you want any prints returned and if you do not want them to be cut, please, mark "Return" and "Do not crop" on the back of the print. All art work must be ready for printing. It is best to plan for the art to be reduced to 75% in printing and the finished drawing should fit into the 7.5 inch by 10 inch working area of the final page. Art work that does not fit this requirement will have to be cut and pasted to fit; no problem, but things might not look exactly as you want them to look. All work for the SAFO is voluntary and no payment can be made for published material.

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SAFO is distributed in England by Midland Counties Publications, 24 The Hollow, Earl Shilton, Leicester LE9 7NA; and in the USA by Bill Dean Books, 166-41 Powells Cove Blvd., Whitestone, NY 11357. Additional distributors in both of these countries and in other countries would be most welcome.

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COVER COMMENTS: It is not often that we can present four small air forces in one photo, but our cover this issue does exactly this. From front to back are EMB-312 Tucanos in the liveries of Venezuela, Peru, Brazil, and Argentina. (The non-Brazilian aircraft are carrying temporary Brazilian registration numbers.) The Tucano is presently in service with nine air forces - not counting the latest order for six units from an undisclosed South American customer. Since one of the known customers is the RAF, perhaps it is not too much to expect a kit of this attractive aircraft from either Matchbox or Airfix. It certainly would make a welcome change from the diet for stovepipes presently being fed to modelers. (Embraer 2JA78A9)

AUSTRALIA

AUSTRALIAN PLASTIC MODELLER'S ASSOCIATION (APMA, PO Box 51, Strathfield, NSW 2135; 4 issues airmail A\$ 18.00).

1/87 (28 pages) "Miracles in Grey: Part 5" 6 pages including 10 side-view drawings and top and bottom plan-view drawings for RAAF Mirages. "P-40F Warhawk" 4 pages on modeling the P-40F including 2 side-view drawings and table (with sketches) on modeling all P-40 variants. "Early Cats" 4 pages on modeling the early mark Catalina including 4 side-view drawings (one PBV-4-3/8) and details for Soviet GST. "MiG-21" 2 pages including 3-view (top, port, & starboard) of camouflaged Indian MiG-21. "Heinkels: Part 1" 2 pages on modeling He-111P variants including 2 side-view drawings (one Hungarian). "Dornier Do-28D-2 Kenyan Air Force" 1/2-page side-view drawing.

AUSTRIA

OFH NACHRICHTEN (Oesterrichische Flugzug Historiker, Kannwegasse 1/15, A-1150, Wien).

1/87 (34 pages) "SAAB J-350" 10 pages on Austrian J-350 including 1/72-scale 3-view (side, top, bottom) drawings; aircraft are finished in a 3-tone grey scheme. "A-3 'Taube' - Bitte Melden" 6 pages including one photo and one side-view drawing of Junkers F-13.

2/87 (31 pages) "Grunau Baby" 8 pages including 2 photos and a 2-page 1/72-scale 4-view drawing.

PANORAMA (IPMS Austria, Nordmannngasse 11-13/4/6, A-1210, Wien).

Last issue received 2/86.

BELGIUM

KIT (IPMS Belgium, Te Couwelaarlei 103 bus 21, B-1200 Deurne/Antwerp; 4 issues for US\$ 13.00, add \$3.00 for airmail, no personal checks accepted).

#65 Spring 87 (30 pages) "The Gloster Meteor F.Mk.8 in Belgian Service: Part 1" 10 pages including 12 photos and 3 pages of 1/72-scale drawings (one 5-view drawings and 2 side-view drawings. "FA-18 A 'Flamboyant' F-16" 6 pages including one color photos, 5 b&w photos, 3-view drawing (port, starboard, & top), and drawings of squadron badge & special markings. "Belgian Hunters Part 6: F.Mk.6" 3 pages on tables on individual aircraft.

BRAZIL

EM ESCALA (IPMS Brazil, Rua Arquias Cordeiro, 316 S/502, CEP 20770, Meier, RJ).

13/1 (20 pages) "Cessna L-19 Bird Dog" 5 pages including 4 pages of drawings of two Bird Dogs in Brazilian Air Force markings. "Fokker S-11" 2 pages including a page of drawings of cockpit details.

CANADA

RANDOM THOUGHTS (IPMS Canada, Box 626, Stn. B, Ottawa, Ontario K1P 5R7; 6 issues for US \$16.00 in US \$18.00 elsewhere).

Last issue received 4/18

CZECHOSLOVAKIA

LETECTVI + KOSMONAUTIKA (Best obtained by exchange with a friend in Czechoslovakia).

Last issue received 9/87

DENMARK

NYT (IPMS Denmark, c/o Kai Willadsen, Kastellet 54/322 Kobenhavn O (01) 12 94 51; 4 issues for 70 Dkr surface, 80 Dkr airmail).

Last issue received #36

ENGLAND

MAGAZINE (Tim Laming, 258 Woodseats Road, Sheffield, South Yorkshire S8 0PQ, 6 issues for £11.00 + 50p joining fee. US subscription agent: Wise Owl Publications, 4314 West 238th St., Torrance, CA 90505; \$20.00)

Last issue received 1/87

PLASTIC KIT CONSTRUCTOR (PKC, 22 Slayleigh Ave., Sheffield S10 3RB, South Yorkshire; USA: J.J. Daileida, 4314 West 238th St., Torrance, CA 90505; 4 issues \$18.00).

#12 5/1 Aug. '87 (24 pages) "Build a Family: Lockheed F80/T33/F94 - Part 3" 3 pages sketches and photos on building the vacuform T2V Seastar and converting the T-33 to the twin-tailed T-33A. "Luftwaffe in Miniature: Part 1" 2 pages on building the Airfix FW190D-9, Bf109E, Ju88 and the Huma Me290V4. "Caravelles" one page on building the Dubena kits (1/248-scale) as a Swedish Tp-85. "Grumman F8F Bearcat" a 2-pages 6-view scale drawing. "Roseplane Caudron G-III" 2 pages on building this 1/72-scale vacuform. "Welsh Models Britannia" one page on building this 1/144-scale vacuform kit. "Yakovlev Forger A" a one-page 1/72-scale 4-view drawing. (Editor's note: PKC has moved to the international A4 size and it makes an amazing difference. If you were turned off by their earlier small-scale format, you owe it to yourself to check out the new PKC.)

WIND-SOCK (10 Long View, Chiltern Park Estate, Berkhamsted, Herts., HP4 1BY. Four issues per year; Europe £11.00, Australia/NZ \$30.00 AUS/NZ; USA/Canada \$20.00 US from J.J. Daileida, 4314 West 238th St., Torrance, CA 90505)

Last issue received 2/87

FINLAND

MALLARI (IPMS Finland, PL 798, 00101 Helsinki 10; 4 issues \$6.50, add \$1.00 for airmail and \$1.50 for cashing personal check).

Last issue received 4/85.

FRANCE

LA VITRINE DU MAQUETTISTE (IPMS France, 73 rue Alexandre Dumas, 75020 Paris; 4 issues 60 FF surface, 80 FF air, back issues 12 FF, "La Lettre de l'IPMS" 25 FF).

Last issue received #28.

GERMANY

MITTEILUNGEN (IPMS Germany, Oertzenweg 12b, 1000 Berlin 37; 12 issues DM 42.00 Europe, DM 49.00 USA, DM 55.00 Japan, DM 61.00 Australia).

4/87 (30 pages) "Wing Commander Alois Vasatko" 3 pages including 3-view drawings (port, starboard, & top) of French Curtiss Hawk flown by the Czechoslovak ace.

5/87 (30 pages) "Flugzeuge der Achsenmächte" one-page 1/72-scale 3-view drawing each of Romanian Gotha Go-145 and Hungarian Bucker Bu-181. (Editor's note: To the artist of this series, Matthias Rothe: The SAFCH needs you.)

ITALY

IL NOTIZIARIO (IPMS Italy, CP 182, 41100 Modena Ferrovia; 4 issues 24,000 Italian Lira in Europe or \$18.00 overseas).

1/87 (32 pages) "La Fanteria di Linea France se 1939-1940" 7 pages on uniforms, equipment, and insignia. "FW-190A-8 mit Doppelreiter" 2 pages with a page of drawings

on building a FW with wing pods. "Fiat 508C mil 1100 Torpedo Militare" 2 pages with 2 photos and 1/35-scale drawing Italian "Jeep". "Cobra: Part 1" 8 pages on USA AH-1S. "Boeing Dynasoar" 2 pages including 1/72-scale drawing. "S-83 Ala Littoria" 2 pages with sketches and side-view drawing for building a civil S-83 'I-ATTE'.

JP-4 (JP-4, CP 1550, 50100 Firenze; L 27.000 Europe, L 30.000 elsewhere).

4/87 (84 pages) "The Kfirs of Uvada" 4 pages including 7 color photos of Israeli Kfirs. "Mirage IVP" 11 pages including 12 photos (5 in color), 3-view drawing, cut-a-way drawing, 6 squadron badges in color. "The U-2 in Beijing" 2 pages with 9 color photos (Tu-2, MiG-15, Ki-55, J-5, JJ-5, F-86F, T-33A, & Beaver). "Diary of a Torpedo Squadron Airman" 4 pages with 6 photos. Four-page English summary.

5/87 (94 pages) Photos: Brazilian EMB-120 VC-97 and Norwegian F-16 '276'. "Alberto Briganti: Una Vita tra Marina ed Aeronautica" 3 pages including photo of Macchi M.5. "National Air Races 1932" 5 pages including 6 photos. "Plastimodellismo: F-94A/B Starfire" 3 pages including 6 color side-view drawings.

6/87 (94 pages) Photos: Argentine AS.61D SeaKing '36' (color), Finnish Hawk (color), Libyan SF.260, Irish Dauphin '245' (color), UAE B.747SP VIP(!), and Israeli Skyhawk '344'. "I Minijet Francesi" 6 pages including 13 photos (SIPA 200 Minijet, Payen PA-49, Fouga Cyclone). "Una Nuova Realta Sud Americana" 5 pages including 5 photos (Tucano 'PP-ZTC'). "Un Drangone Misterioso" 2 pages with 3 photos and color 3-view drawing. "Il Museo della Luftwaffe" 2 pages including 5 photos (Pembroke, G-91R-4, CASA 2111, HA 1112, & Do 27). "Plastimodellismo: Guppy e Skyraider Multiposto" 4 pages including 4 photos and 4 color side-view drawings.

AEROFAN (Gioglio Apostolo, via Ampere 49, 20131 Milano; 4 issues for US\$ 16.00).

1/87 (36 pages) "Dornier Do-X in Italy" 9 pages including 21 fantastic photos of military Do-X. "Stefanutti's Projects" 6 pages including 5 3-view drawings of early Italian swept-winged jet-powered aircraft; a swept-winged Ambrosini S-7 trainer is said to have been "extensively test-flown". "Junkers Ju-87" 11 pages including 16 photos of Ju-87Bs and Ds in Italian markings (one in Co-Belligerent markings), 4 pages of sketches of details for both versions. Photos: Cr-20, Ca-113, Breda SC-4, Breda A-10, and the S-55 flown to Brazil in 1927. Two page English summary.

MALTA

MODELAID INTERNATIONAL (MAI, 206 Old Bakery St., Valletta; 12 issues Europe £17.55, USA & Canada US\$45.35 airmail, Australia AU\$54).

8/87 (32 pages) "Jaguar" 11 pages including 19 photos, 6 side-view drawings (Oman & India), 2 sketches (ejection seat & cockpit interior), 2 pages of 1/72-scale drawings. "Vampire: A Very Docile Bat" 5 pages including 6 photos, 10 side-view drawings (Australia, Sweden, Canada, Iraq, South Africa, & France), 1/72-scale drawings. Kingfisher: Vought's Guardian Angel" 4 pages including 2 photos, 3 color side-view drawings (Australia), & 1/72-scale drawings. "The Royal Australian Air Force: Part Two - The Inter-War Years" 2 pages including 4 side-view drawings (Bristol F2B,

DH-9, Wapiti, & Avro 643 Cadet). Aeroclub has injection-molded kits to convert the Matchbox Meteor NF11 into either a T7, F8, FR9, or a PR10.

NEW ZEALAND

SCALE DIMENSIONS (IPMS-New Zealand, c/o Paul Tibbutt, 43 Jilteresa Cres., Bucklands Beach, Auckland; 4 issues US\$10.00)

4/1 4/87 (32 pages) "Aircraft of the RNZAF No.11: BAC 167 Strikemaster" 6 pages including 2 photos, one 3-view drawings (top, front, port), one side-view drawing, and drawings of squadron & other markings. "Gliding On" 3-page review of available kits. "50 Years and More: RNZAF in Miniature" one-page list of 49 RNZAF aircraft types and kits available/conversions. "Super Detailed Bf-109F" 9 pages (illustrations are all of German aircraft). "50th Anniversary Skyhawk" 3 pages of drawings with color chips.

POLAND

TECHNIKA LOTNICZA I ASTRONAUTYCZNA (Best obtained by exchange with a friend in Poland.) Last issue received 1/87

MODELARZ (Best obtained by exchange with a friend in Poland.)

Last issue received 4/86

ROMANIA

MODELISM (Rompresfilatelie, PO Box 12-201, Bucuresti, Calea Grivitei 64-66, ROMANIA; one year - 4 issues - \$10.00.)

Last issue received 1/87

SINGAPORE

SCALE PLASTIKS (Plastic Modellers Society Singapore, 32 Mangis Rd., Singapore 1542)

Last issue received #6

SOUTH AFRICA

AFRICAN AIR REVIEW (Aviation Society of Africa, PO Box 316, Melville 2109)

1-6 87 (8 pages) Nothing of small air force interest.

AIR AFRICANA (Published by ASA: see address above)

2/87 (20 pages) "44 Squadron's Insignia" 2 pages including one photo of SAAF Dakota. "HRH Prince Charles in Swaziland march 27-29" 2 pages including 2 photos. "Joint Air training Scheme" 3 pages including 2 photos (Harvard & Rapide). "SAAF Squadrons: 41 Squadron" one page including photo of AM3C. "Homebuilt Aircraft South Africa" 2 pages including one photo. Photos: SAAF Impala and F1CZ '206'; and Zambian Air Force Dakota 'AF-104'.

THE GOLDEN JAW (IPMS Johannesburg, PO Box 186, Honeydew 2040, RSA) (See the REVIEW section of this issue of the SAFO for more details on this new magazine.)

Last issue received #1

SWITZERLAND

VIRUS PLASTICUS (IPMS Switzerland, c/o Mathias Weichelt, Zelgstrass 27, 3027 Bern; 4 issues for Sfr 24).

2/87 (28 pages) "Grumman S-2 Tracker" 11 pages including 4 photos and 8 side-view drawings (Avenger, AF-2W, S-2, & S-3) all USN but very good. "PC-9" 4 pages including 3 photos (one color) and 1/72-scale 3-view drawing.

USA

WWI AERO (Leonard Opdycke, 15 Crescent Rd., Poughkeepsie, NY 12601; 5 issues \$ 20.00; tax deductible).

7/87 #115 (98 pages) "Pilotless Aircraft" 12 pages including 23 photos and 3-view drawings of RAF Aerial Target. "'Spin' Returns to Fokker" 5 pages including 3 photos and a page of scale drawings telling to story of the return of the first Fokker aircraft from Poland. "Engines: Part 4 The Aluminum Monobloc Engine" 11 pages including 10 photos and a 2-page drawing of the Napier Lion. "Archive" 8 pages including 15 photos of the Polish-German restoration of the Jeannin Taube and Albatros B.IIA; the Albatros in its Polish Air Force markings. "Cockpits/Instruments" 7 pages packed with photos & information.

9/87 #116 (108 pages) Entire issue devoted to pre-WWI aircraft, most of which did not fly. "Phillips 1844", "Webb-Peet 1907" including 3-view drawing of Scott ornithopter, "Gilmore 19098", "Nieuport 1909" 2-page 3-view drawing. "Selvage 1909", "Spettacolo Aeronautico" 8 pages including history of Caproni aircraft up to 1913, 13 photos and a 2-page 3-view drawing of the 'Caproni Doppel Decker'. "Von Pomer 1910", "Tillinghast 1910", "Queen Bleriot 1910", "Loopers 1913", "Taubes 1913", "Ingram-Foster 1914", "Paris" history of aviation in Paris during 'La Belle Epoque'. "cockpit/Instruments: Part XII", and "Etrich Taube 1907" 1-page 2-view drawing.

SKYWAYS (World War I Aeroplanes, 15 Crescent Rd., Poughkeepsie, NY 12601; 4 issues \$ 20.00)

#2 April '87 (68 pages) "Ford 5-AT-11" 11 pages including 20 photos (6 of aircraft in Mexican, Cuban civil markings). "Chronology Highlights" 5 pages covering 1922 & 1923. "Navy & Marine Aircraft 1920-25" 8 pages including 26 photos. "Cessna DC-6 Series" 5 pages including 16 photos. "Travel Air B6C" 6 pages including a 4-page 5-view 1/50-scale drawing. "Cockpits: Grumman F3f-1" 4 pages with 4 photos. "Flight Reports: Star Cavalier" 3 pages including 6 photos. "The Gipsy Moth" 8 pages from "repair manual". "Naval Aviation Museum" 3 pages of 12 photos. "Pitcairn PA-4" 2 pages including 2 photos and a small 3-view drawing. "SARO A.33" 3 pages including 3 photos. (Editor's note: The editor says "The goal of Skyways is to cover the airplanes of all countries in the world ... 20s and '30s", but so far he has had few contributions from overseas. I hope that non-US SAFCH members will want to do articles for Skyways, but please consider publishing in both the SAFO and Skyways.)

#3 July '87 (68 pages) "Old Orchard Beach: Beginnings to Old Glory" 12 pages including 14 photos. "McCook Field - Airplane Record February 1 1922" 10 pages including 22 photos. "Levasseur PL.8" 8 pages including 5 photos and a 2-page 1/32-scale drawings of l'Oiseau Blanc, the aircraft in which Coli and Nungesser attempted a trans-Atlantic flight. "Sperry Messenger" 8 pages including 8 photos and 5 pages of 1/40-scale drawings. "Chronology Highlights" 4 pages covering 191924 & 1925. Cockpits: Early McCook Field" 3 pages with 4 cockpit photos. "Flight Reports: Travel Air 4000" 3 pages including 4 photos. "Engines: The Blount Steam Engine" 2 pages including 4 photos. "Cradle of Aviation Museum" 2 pages including 4 photos.

DIRTY PLASTIC (IPMS Phoenix, 509 W. Camino Dr., Phoenix, AZ 85021).

Summer 1987 (20 pages) "Towed Fuel Glider: Another Interesting Luftwaffe Conversion" 2 pages on converting the Fi-103 to a fuel glider. "Lockheed Models 19 & 20" 8 pages with tables and drawings. "Fun with Skyhawks" 3 pages on conversion information with 6 side-views.

"This is to notify you that we are no longer publishing Dirty Plastic. We reluctantly were forced into this position thru a combination of diminishing subscribers, higher printing costs, and a postal increase in the not too distant future. After 16 years and, to the best of our knowledge, the longest running chapter publication in the U.S., we are really sorry to have to quite. It was fun while it lasted."

The Editor and Staff of Dirty Plastic.

(Editor's Note: We'll miss DP. It has been second only to SAFO in the quantity and quality of information it has offered on the small air forces. Best of luck, guys!)

IPMS HAWAII (1650 Lehia St., Honolulu, HI 96818; \$5.00 for mainlanders and \$6.00 for those overseas).

Last issue received #24.

PRI-FLY (IPMS Washington DC, c/o Carol Fleckenstein, 1810 Michael Faraday Dr., Suite 101, Reston, VA 22090; 4 issues \$6.00 for US, \$7.00 all others).

#64 Convention Special (40 pages) "Aircraft of the Aces: Don Lopez" 2 pages including 2 photos, 2 side-view drawings, and decal sheet for Lopez's P-40N and P-51C. "SAAB 105" 5 pages including 4 side-view drawings and 4 split plan-view drawings (Sweden and Austria). About half this issue is devoted to article by, and about, modeler's wives.

AIR INTERNATIONAL ABSTRACTS

ARGENTINA: "The Pampa (IA 63)", Vol. 32, No. 2, p.59.

CHILE: "Chile's Falcons (FAeC's Aerobatical Team)", Vol. 32, No. 6, p.324.

FRANCE: "Epsilon", Vol. 32, No. 1, p. 7. "Penetration Augmentation (Mirage IVP)", Vol. 32, No. 4, p.163.

INTERNATIONAL: "Mirages a la Monde (Modified South African, Chilean, & Swiss Mirages)", Vol. 32, No. 1, p.36.

ITALY: "The Italian Fortress (Piaggio P.108B)", Vol. 32, No. 1, p.29. "ATR goes to ATI", Vol. 32, No. 1, p.32.

PAKISTAN: "Pakistan reorients its Air Power", Vol. 32, No. 2, p.67.

POLAND: "Poland's Novel Tuitional Trio (I-22, Iskierka, & Turbo Orlik)", Vol. 32, No. 5, p.227.

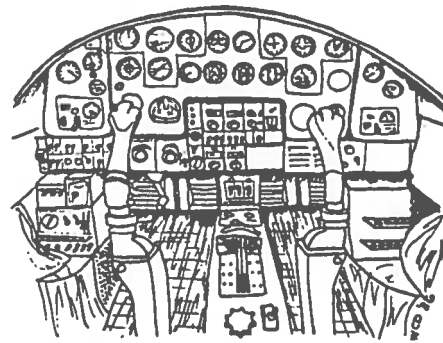
SWITZERLAND: "Swiss Revise Flying Training", Vol. 32, No. 5, p.234.

VENEZUELA: "Venezuela takes to Tucano", Vol. 32, No. 1, p.46.

Compiled by: Tor A. Scott (SAFCH #403), 168 59th Ave., Chomedey Laval, Que. CANADA H7V 2B8

SAAB 105

by
BILL
DEVINS



SAAB 105 COCKPIT

SAAB designed the 105 as a jet successor to the SAAB 91 Safir primary trainer, but it is equally effective as an executive transport, liaison aircraft, aerial survey machine, or light attack airplane. Desiring the added safety factor of twin engines for their trainer, SAAB was forced to wait until the French Turbomeca company evolved a suitable engine, the Aubisque, rated at about 1640 lbs thrust, before their idea could take wing. The 105's first flight, on 29 June 1963, was thus the little turbofan's baptism of flight also.

Swedish Service

One hundred and thirty Sk60 trainers were delivered to the Flygvapnet (Swedish Air Force) starting in early 1966. Twenty A60 attack versions were also ordered, and eventually many Sk60's were modified to enable them to carry the external stores meant for dedicated attack versions. Cannon pods, bombs, missiles, rockets, and other loads totally up to 1740 lbs can be fitted to six underwing hard points. Machines so equipped are now designated Sk60B by the Swedes. The reconnaissance version, with cameras mounted in an extended nose cone, is known as the Sk60C.

Austrian Service

SAAB looked for export customers for its neat little jet trainer, but found that the small size of the engines reduced its attractiveness to potential buyers, who were looking for a trainer and strike aircraft in the same package. SAAB was succeed in interesting the Austrians in an up-engined version, equipped with General Electric J85 engines developing 2850 lbs of thrust each, a near 75% increase over the Aubisques! This version, the SAAB 1050E*, has served the Austrian Heeresfliegerkrafte throughout the seventies and eighties. A later version, the SAAB 105XT featuring the J85 engines and a modified slatted wing, was marketed, but no significant orders were taken.

The SAAB 105 in Profile

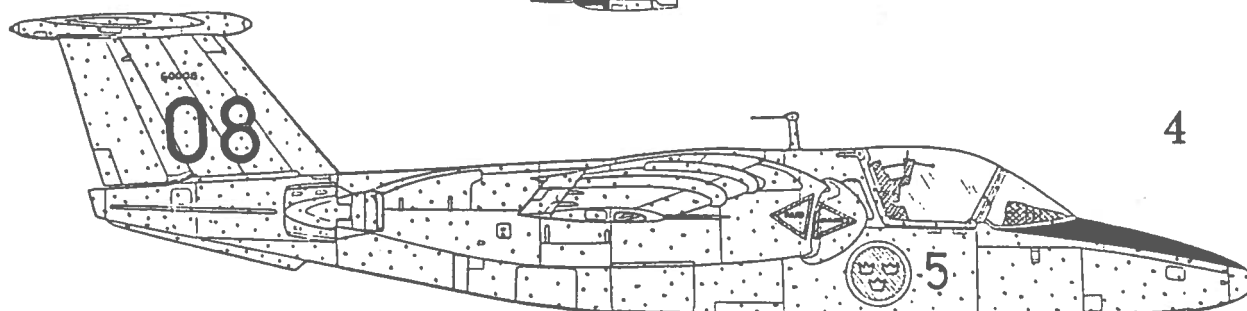
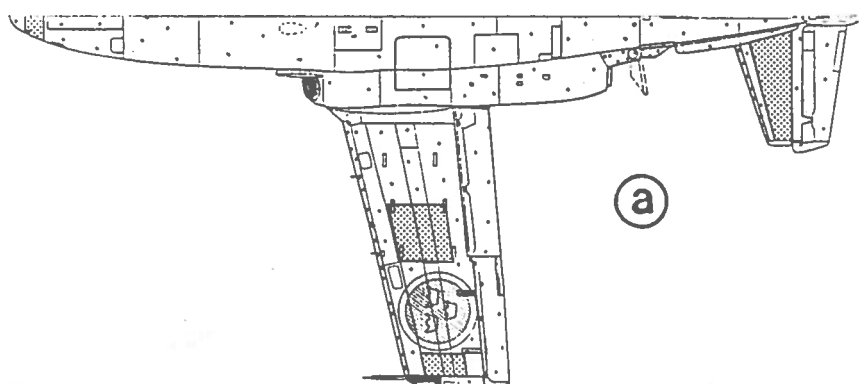
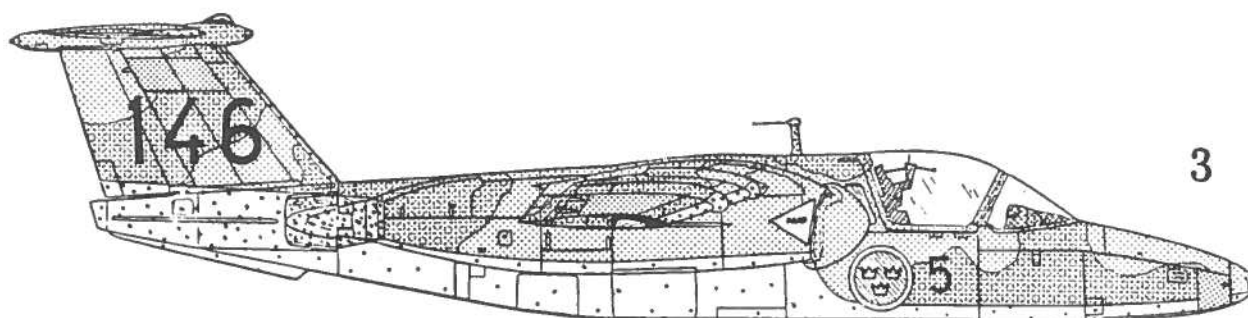
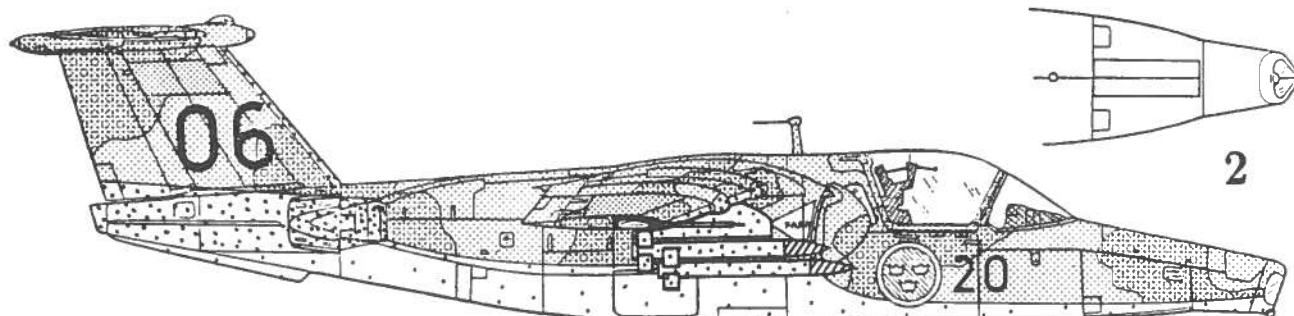
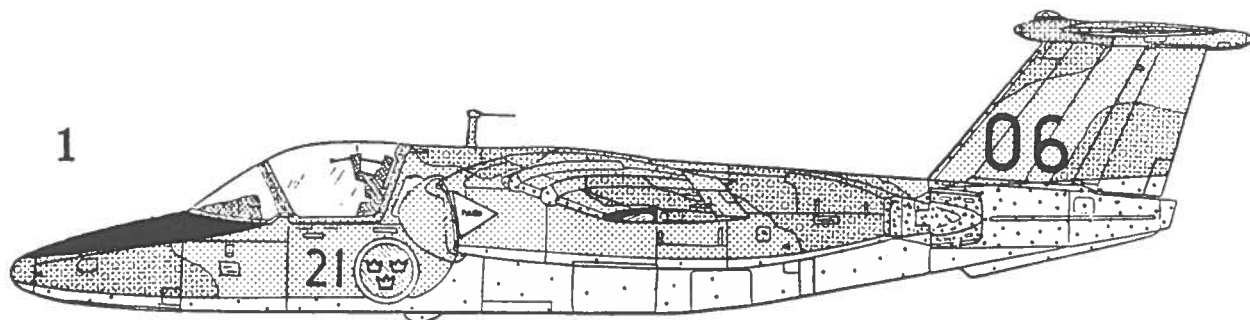
(1) An Sk60B of the single light attack division of F 21, based at Lulea in northern Sweden for close support, this machine displays the colors and markings typical to camouflaged Flygvapnet SAAB 105's. It is very difficult to discern the soft-edges color separations between the dark olive green and dark blue-grey uppersurfaces, even in color photographs. The undersides are finished in light blue-grey, while the nose carries a dull black anti-glare

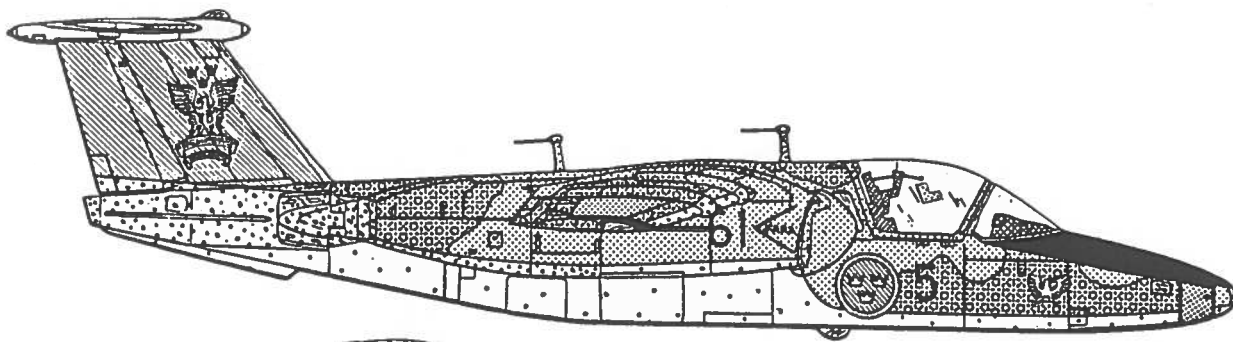
panel. All stenciling appears on silver panels on the wings and fuselage, indicating that this machine may have been unpainted metal at one time. The jet intake warning triangles are yellow with the red word "FARA" inscribed on them. Thin yellow lines on the upper wings, along the control surface separations, mark the trailing edges as "no step" areas. The leading edges of the wings, tailplane, fin, and jet intakes are silver, as is the blast panel aft of the engine exhausts; dive brake is a bronze color. The wingtip navigation lights are set into black panels. Yellow wing ID and individual aircraft numbers appear on the nose and fin, respectively. Swedish roundels, three black-piped yellow crowns on a yellow-ringed light blue disk, fly in six positions.

(2) This Sk60B-C of the 20th Wing (F 20) based at the Flygvapen Krigsskola (Air Force War School) at Uppsala, near Stockholm, typifies the multi-role capabilities of the SAAB 105. A photo-recon version, it is shown fitted with air-to-surface rockets under the wings. Camouflaged like the machine above, it also carries the day-glo orange high-visibility panels of a trainer! Wing and aircraft numbers are yellow. The rockets and pylons are silver; the rockets have red noses. This machine does not have a black anti-glare panel; otherwise, its remaining colors and details are as described above. Note the correct shape of the drooped camera nose.

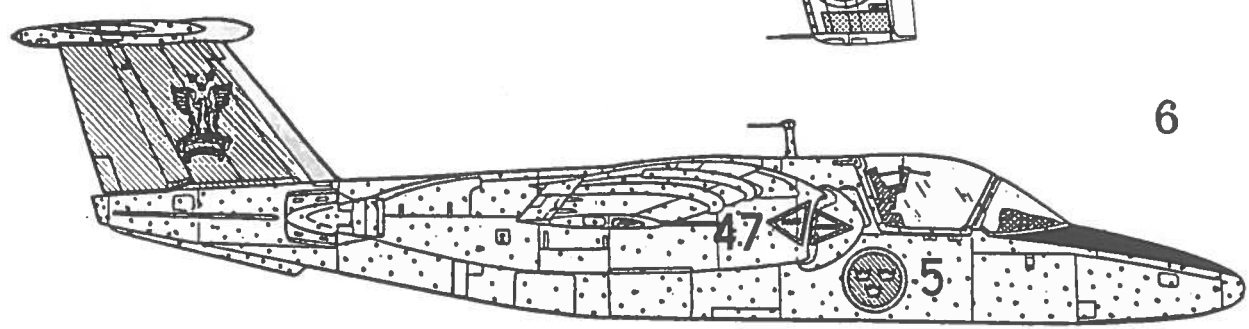
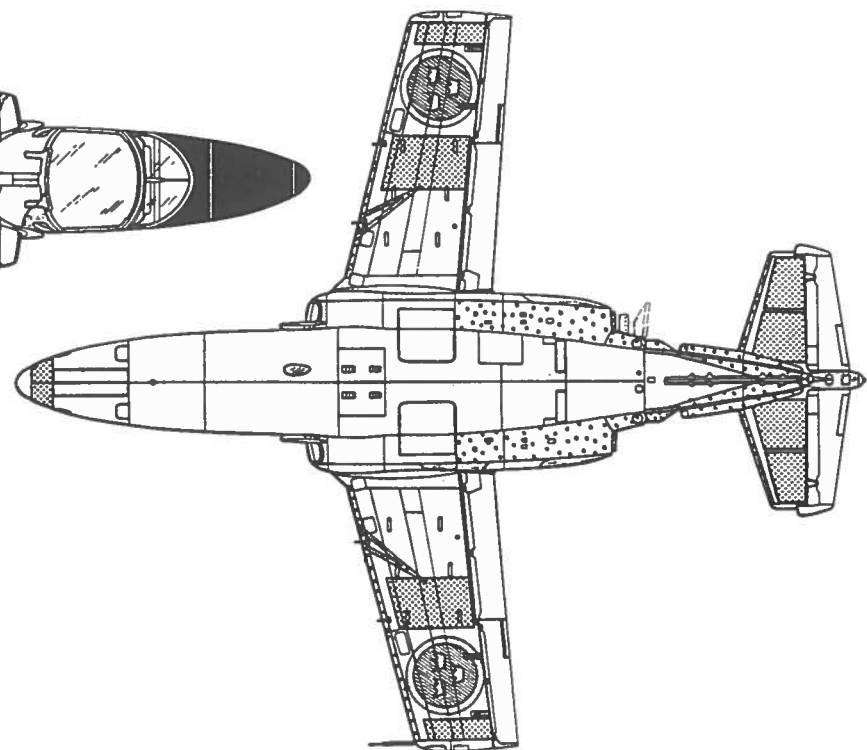
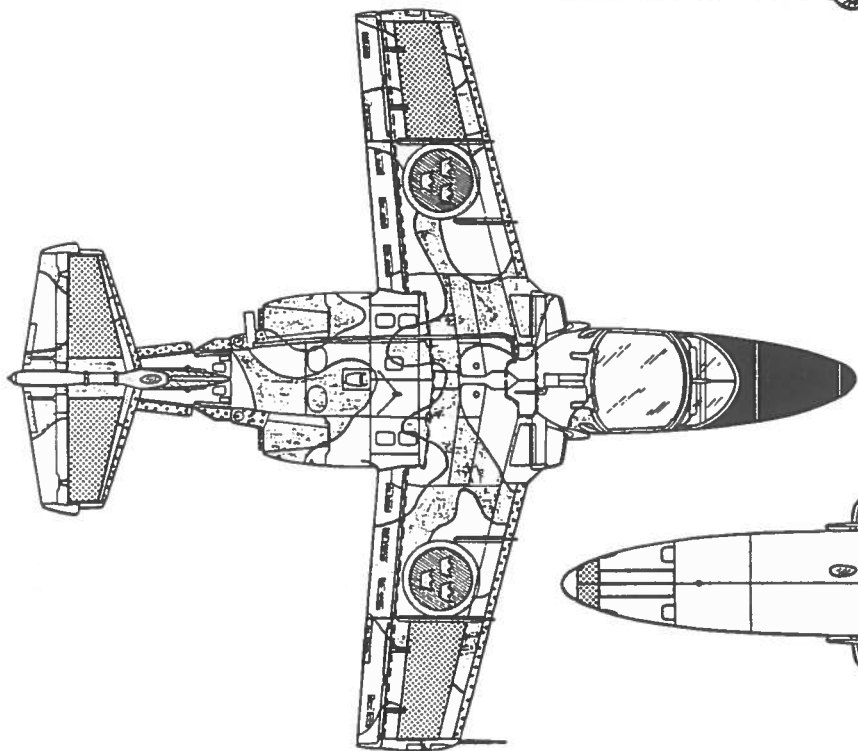
(3) An Sk60 of F 5, the training wing of the Flygvapnet, this aircraft is also finished in the dark camouflage colors. Full trainer day-glo markings are carried, including panels on the fin, around the lower nose, and above and below each wing. Figure "a" shows the position of the lower surface markings; note that while SAAB 105's generally fly the wing insignia between the wing fences on the upper surfaces, the roundels usually appear outboard of the fences below. Also note the details of the thrust deflector and its open position (dotted) in the plan-view. A small yellow number "146" is painted on the nosecap. All other details are the same as for the machine above.

(4) This Sk60 is depicted in the overall natural metal scheme seen on the 105's early in their careers with the Flygvapnet. The twin intake warning triangles are yellow with red outlines and the word "FARA" inside. Wing ID number on the nose, and aircraft and serial number "60008" on the fin are black, as is the anti-glare panel. The rear of the fuselage, aft of the wing roots, tends to be stained darker than the rest of the machine.





5



6

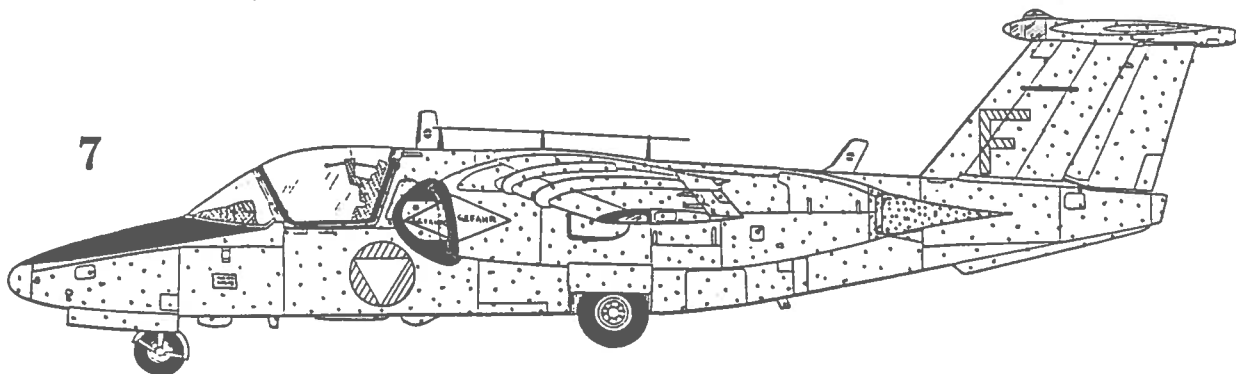
- SAAB 105 COLOR KEY -

DK OLIVE GREEN	LT BLUE-GREY	BLACK	MEDIUM BLUE	RED
DK BLUE-GREY	SILVER	DAY-GLO ORANGE	YELLOW	WHITE

(5) The six Sk60's of Team 60 are drawn from F 5, the training wing of the Swedish Air Force, and they bear colors and markings typical to camouflaged Flygvapnet SAAB 105's. It is very difficult to discern the soft-edged color separation between the dark olive green (FS 34086) and dark-grey (FS 35045) uppersurfaces, even in color photographs. The undersides are finished in light blue-grey (FS 35526), while the nose carries a dull black anti-glare panel. The leading edges of the wings, tailplane, fin, and jet intakes are silver, as is the blast panel aft of the engine exhausts, extending up onto the rudder; the thrust deflector is a bronze color. Note that the underpanels of engines are left in natural metal finish, a common practice on Flygvapnet jets. Swedish roundels, three black-piped yellow crowns on a yellow-ringed light blue disk, fly in six positions. Full trainer day-glo orange markings are carried, including panels on the stabilizers, around the lower portion of the nose, and above and below each wing. Black-outlined silver chevrons are painted on the lower wings just beneath the inboard fences. The plan-views show the position of all these markings; note that while the SAAB 105's generally fly the wing insignia between the wing fences on the upper surfaces, the roundels usually appear outboard of the fences below. Also note the details of the thrust deflector and its open position (dotted) in the lower plan-view. Camouflage toning in these views has been simplified for clarity; only the dark blue-grey is shaded. All stenciling appears in black on silver panels on the wings and fuselage, indicating that this machine was unpainted at one time. The jet intake warning markings are thin yellow chevrons with the yellow word "FARA" ("Danger") inscribed within them. Thin yellow lines (shown dotted in the upper plan view) on the upper wings, along the control surface separations and upper access panel, mark them as "no step" areas. The F 5 wing identifier, a yellow "5", appears just below the canopy ahead of the fuselage roundel. The only alterations to the basic scheme dictated by Team 60 requirements is the painting of the fin in

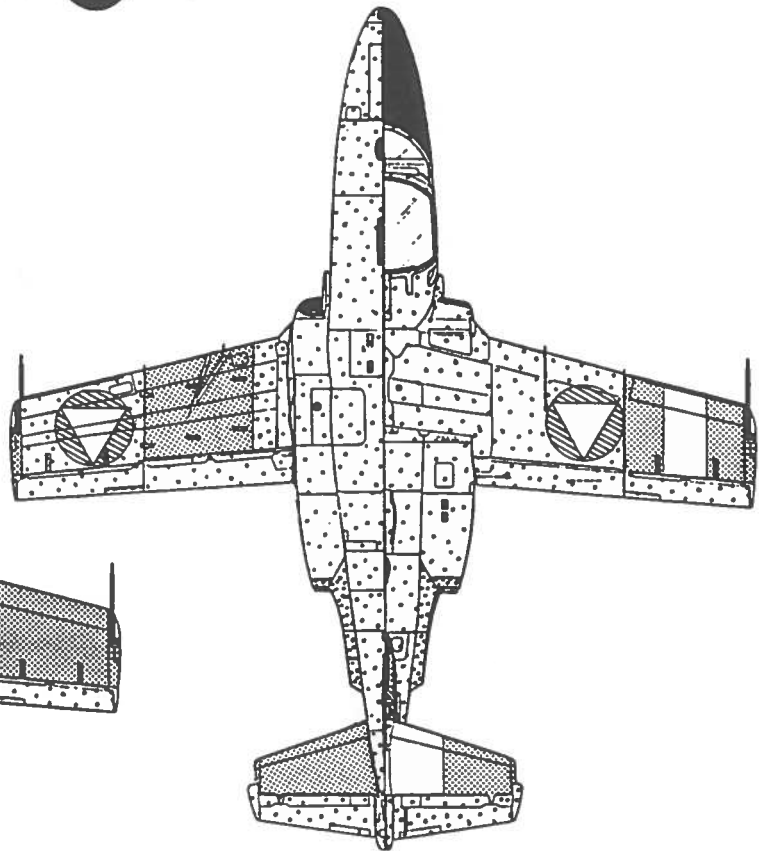
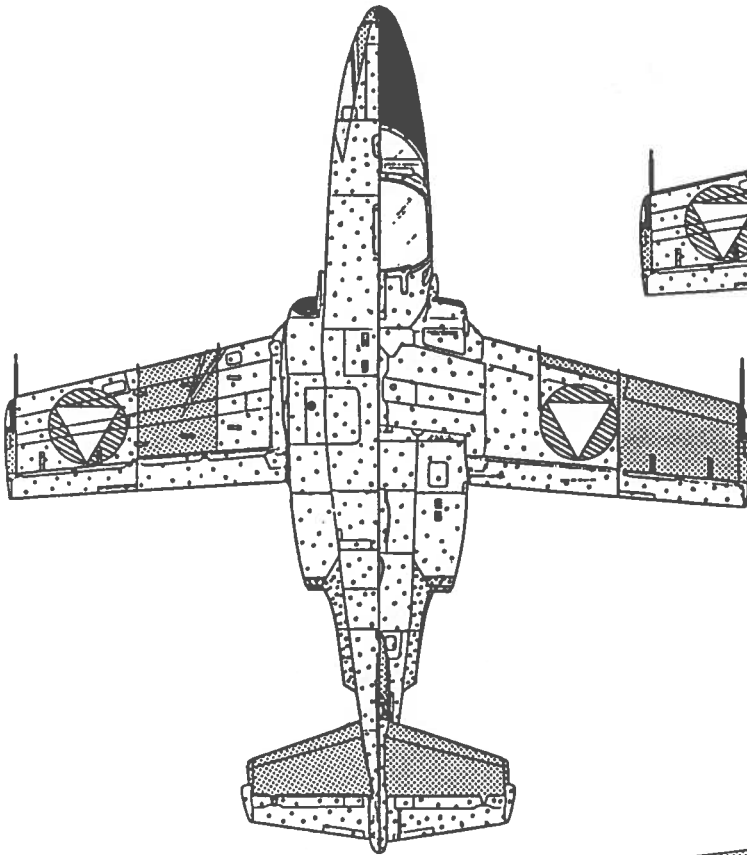
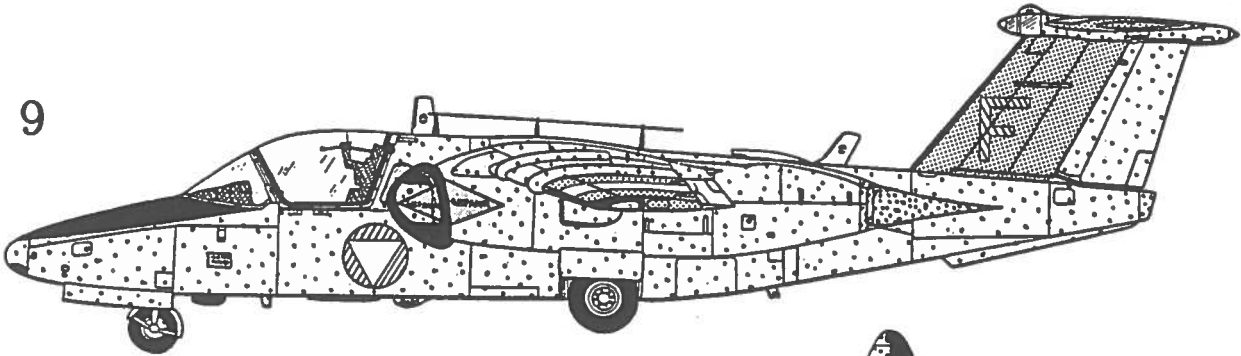
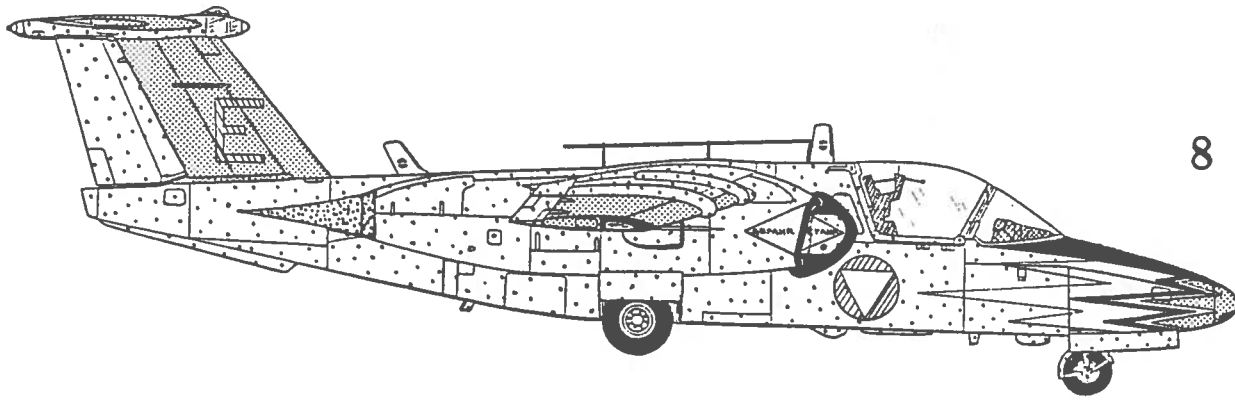
Swedish insignia blue, with the leading edges and the entire fin/stab bullet fairing in yellow. The yellow individual aircraft number, "61", is moved from its usual place on the fin to a position on the air intake, just under the wing leading edge. Other individual aircraft used during the 1983-84 season included 62, 96, and 104. The yellow Eagle and Eaglet insignia of the Royal Swedish AF Flying school, surmounted by the triple ornate yellow crowns signifying the F 5 wings, are painted on the fin. A lone Eaglet appears in yellow on the nose just below the windscreen. The smoke-making gear is attached above the port tailplane, and an external hose follows the engine/fuselage junction to the upper access panel. The smoke generating tanks and equipment are carried in the right-hand side of the cockpit, replacing most of the ejection seat on that side. A second antenna is mounted to the right of the fuselage spine, aft of the usual antenna. Note the day-glo L-shaped formation aid taped to the starboard side of the canopy.

(6) This Sk60 of The Vikings is depicted in the overall natural metal scheme seen on SAAB 105's early in their careers with the Flygvapnet. The twin intake warning triangles are yellow with red outlines and the red word "FARA" inside. Wing ID number on the nose, and individual aircraft number "47" on the intakes are black, as is the anti-glare panel. The rear of the fuselage, aft of the wing roots, tends to be stained darker than the rest of the machine. Demo team markings are very similar to those of The Vikings' successors, Team 60, as described above. The same yellow emblem is carried on a bright Swedish-ID blue tail. The yellow fin leading edge is wider than on Team 60 machines, and only the front part of the bullet fairing is trimmed in Swedish-ID yellow. Six Swedish roundels are seen in the normal positions for Sk60's. Black "TRAMPA EJ HAR" (No Step) stencils appear in the appropriate positions on the wing. Other individual aircraft numbers used during the 1967-68 season were 40 and 41.



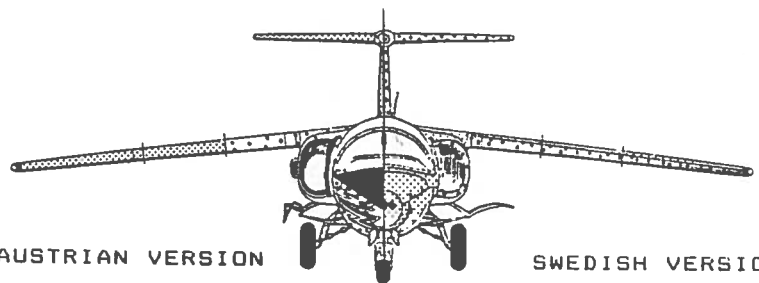
(7) An Austrian SAAB 105OE of the Fliegerschule finished overall in natural metal with a black anti-glare panel. The intake lips and splitter plate are also black, with twin yellow warning triangles on the silver areas. The triangles are edged in red with the red word "GEFAHR" on them. Note also that the canopy frame is trimmed in black, as are the wing light housings. The exhaust fairing is a darker metallic color. Austrian aircraft feature a lot of antennae and aerials, including two white UHF/VHF blades and a long

rod on the upper fuselage, VOR blades on the fin, and an assortment of blades, bumps, and bulges under the body. Note that the tip of the tailplane fairing is transparent, and that the auxiliary engine intake for the J85 is located under the wing, rather than aft of the upper wing root as on the Aubisque-powered Swedish machines. The national insignia, a white equilateral triangle inscribed in a red disk, is flown in the same six locations as on Sk60's. The blue aircraft letter "F" on the fin is thinly piped in black.



AUSTRIAN VERSION

SWEDISH VERSION



(8) The Austrian Karo-AS (Ace of Diamonds) Flight Demonstration Team uses four SAAB 105OE aircraft, and, as their Swedish counterparts, they show only minor changes from the regular Fliegerschule finish. They are basically overall natural metal with a black anti-glare panel. The intake lips and splitter plate are also black, with twin yellow warning triangles on the silver areas. The triangles are edged in red with the red word "GEFAHR" on them. Note also that the canopy frame is trimmed in black, as are the wing light housings. The exhaust fairing is a darker metallic color. Austrian aircraft feature a lot of antennae and airdials, including two white UHF/VHF blades and a long ADF rod on the upper fuselage, white VOR blades on the fin, and an assortment of blades, bumps, and bulges under the body. Note that the tip of the tailplane fairing is transparent, and that the auxiliary engine intake for each general Electric J85 is located under the wing, rather than aft of the upper wing root as on the Turbomeca Aubisque-powered Swedish machines. An enlarged intake scoop also appears on the rear fuselage spine. The national insignia, a white inverted equilateral triangle inscribed in a red disk, is flown in the same six locations as on Sk60's. The blue aircraft letter "F" on the fin is thinly piped in black. The fin, stabilizers, and panels above and below the wings are painted with day-glo red-orange. Changes incorporated into the Karo-As scheme are limited to the white bands added to the day-glo panels on the upper surfaces of the

wings and tailplane, dividing them into thirds, thus approximating the Austrian flag. Note the black-trimmed silver "V" beneath the wings, the thin black leading edge to the fin and outer wing panels on this machine, and the extension of the day-glo around the very tip of the wing. During the 1982 season, aircraft "D" appeared exactly as machine "F", while aircraft "C" lacked only the black leading edges to the fin and wings. "Yellow G", probably a replacement machine, also had the black leading edges, but lacked all the day-glo coloration and trim.

(9) This SAAB 105OE is shown in the earlier Silver Birds scheme of 1976; this unit evolved into the Karo-As team made up of Dusenflugstaffel instructors. The starburst on the nose is day-glo red-orange, yellow, black, and yellow reading from the nose aft; the wingtips, leading edges, fin, and stabilizer are also day-glo red-orange. Note that the day-glo panel on the lower wing does not extend as far inboard as on the above scheme, but a small extra band of it appears above the wing leading edge between the fences. Otherwise, all markings are the same as for the above scheme, including the black warning stencils on the upper center-section and flaps. The blue "E" on the fin has a thin black outline; aircraft with a blue "H" and a blue "D" also flew in this scheme. The head-on view shows the auxiliary air intake and folded main landing gear door of the Austrian machines as compared to the Swedish variants.

MODELING THE SAAB 105

Cris Gannon of PEGASUS MODELS has recently released a limited-run injection-molded kit of the SAAB 105. The twenty parts exhibit very nice engraved surface detail, most of which should survive the assembly and sanding processes. As usual with these kits, the gates on the sprue trees are exceedingly large, and you should separate the parts from these using a razor saw. All of the mating surfaces are going to need cleaning up, as there is quite a bit of heavy flash around the edges of the components. The main fuselage is split into upper and lower sections, with a separate nose cone and two-part tail cone split laterally. The engine intakes on each side are split horizontally, like the fuselage, and I foresee a lot of carvin', clampin', and cussin' being necessary to mate all of these pieces successfully.

Compromises are often made when molding limited-run kits, and this one is no exception. The nose cone is not long enough and doesn't have sufficient "droop" to represent the Sk60C. It's probably best to sand it into the standard nose shape and model the Sk60. The intake splitter plates are molded integrally with the fuselage sides, and while plastic card replacements won't be a real dilemma, the problem, is exacerbated by the fact that there are cabin windows partially hidden by these plates on the prototype. Adding clear windows to the thick fuselage halves won't be a picnic; the sanest fix is to use blue decal sheet to represent the neglected panes. The tail cone is a compromise between those of the Swedish and Austrian machines. The Swedish aircraft have a complicated airbrake arrangement that is built into the blast fairing, followed by a fixed lateral strake. The Austrian machines, on the other hand, have a longer fixed

streamlined exhaust fairing and no strake. The kit provides a short streamlined fairing which needs lengthening for a 105OE model, and considerable rework and scribing for the airbrake of the Sk60's.

The curved main landing gear doors are provided as molded parts, but they would look better if replaced with thin sheet. Nose gear doors are not included, but patterns are printed in the plans for cutting these parts and the fuselage strakes from plastic card. The mainwheels are nice, but the nose gear strut with its integral wheel will require some effort to thin down. Once again, replacement may be the order of the day. You have to make the somewhat complex main gear assembly yourself, and the plans are none too clear on its exact shape. Unfortunately, my sources aren't much better, so you're on your own there. Notice that Austrian machines have two-piece main doors, the outer panel being hinged to hang down over the wheel in the extended configuration.

There is no interior to speak of - the seat assembly which is the sole internal part cries out for replacement. A pair of metal seats will improve the innards and help weight the nose down at the same time. The clear canopy is a little distorted; some elbow grease and polish will remedy this shortcoming. Decals are included for an Sk60 of F20, and they aren't too bad, although the blue of the insignia is too dark.

The instructions include a nice 1/72nd scale three-view, and that's about it. The construction notes are very abbreviated. They are not much help, often confusing, and sometimes downright wrong. (Steps 2 & 3 should be reversed and clarified, for instance.) The painting notes are much the same, no camouflage

pattern is shown on the drawings, no references are listed, and the colors are mentioned only in Swedish! PEGASUS does provide Compucolor equivalents, but my research tells me that "Ljusgron 322M" (light green) is a Viggen color, and should be "Morkbla 438" (dark blue); "Morkgron 326M" should be "Morkt olivgron 328" (dark olive green). The "Blagra 058M" underside translates as light blue-grey.

It may seem from this review that there's a lot wrong with this kit, and in reality there are quite a few improvements that you can make. But, the molding is pretty nice, and you should be able to come up with a fair representation of this nifty trainer without undue strain. I have seen this kit priced from \$9 to \$12, so it is not cheap; now maybe you at least have an idea of what you're in for. All in all, I feel that PEGASUS should stick to somewhat clunky subjects like this one, as the molding machine that Gannon uses is incapable of capturing the delicacy of most biplane types. Anyway, this is the SAAB 105 we're gonna see, so make the most of it.

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 AIR INTERNATIONAL Vol 12 No 5, May 1977, pp 218-221.
 AIR INTERNATIONAL Vol 15 No 5, November 1978, pp 220-222.
 AIR PROGRESS April 1972, pp 54-58.
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Tokunaga, AEROBATIC TEAMS OF THE WORLD, pp 53-55, 73-76, 125.

Ward, AEROBATIC TEAMS 1950-1970/ARCO-AIRCAM No 29, Arco, NY 1971.

Various postcards, SAAB Company brochure, and Karo-As Team brochure.

The plans and profiles in this article are based on the excellent drawings by Bjorn Karlstrom which are the major feature of the FLYPLANS book.

Thanks to my good friend AlC Mike Grzebien of the 67 ARRS at RAF Bentwaters for sending me the kit "hot of the presses", thus providing the spark for this article. "Z", ex-Pres of IPMS Richmond, has formed the Suffolk Scale Modelers under the aegis of IPMS/UK. The tradition goes on

*Austrian machines are officially designated SAAB 1050, the O having an "umlaut" (two dots) over it. This signifies "Oesterreich", or "Austria" in the Austrian native tongue. The diphthong "oe" is the accepted method of indicating the "umlaut o" pronunciation in English, therefore the designation of Austrian 105's appears as "SAAB 105OE" in this article.

Bill Devins (SAFCH #557), 107 Troy Hills Rd., Whippany, NJ 07981

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Small-Air-Force Trophies

"In SAFO #43 you spoke of supporting the goals of the SAFCH by presenting special awards at local contests. It might interest our readers that at the 1987 IPMS-USA National Convention, our local club, the Oklahoma Historical Modelers' Society, awarded a trophy for the best Small Air Forces/Third World Aircraft Model. It was given in memory of our former club member, Tommy Kay, who passed away in 1986. He was also a member of the SAFCH (SAFCH #239). We hope to make this a yearly trophy at the Nationals. The first trophy was won by a Polish- marked Fokker D.VII, but the name of the builder is unknown at this time."

Don Douglas (SAFCH #438), 2520 SW 54th, Oklahoma City, OK 73119

More Small-Air-Force Trophies

"Ron Cole (SAFCH #586) of Binghamton, NY, won the Small Air Force Trophy at the IPMS/USA Nationals with a beautiful white Polish Hannover CL.II which was extensively modified and detailed. My only SAF type of note was a scratchbuilt Belgian Ponnier M-1, an obscure bird at best."

Bill Devins (SAFCH #557), 107 Troy Hills Rd., Whippany, NJ 07981

Information Available

"Please print my new address in SAFO to let the members know I'm still available to answer any queries they might have on TNI-AU, RAAF, RNZAF, or S.E. Asian air forces (if I

can)."

Mike Mirkovic (SAFCH #465), 2/86 Neptune St., Umina, NSW, AUSTRALIA

Guano Vanishes?

"In August of 86, I got a few rather crummy copies of the I-15 ready in time for the IPMS/USA Convention, and bravely announced that it was ready, excepting that a little 'tuning' stood between me and mass production, fame, and fortune.

"By the end of october, I had to admit that the molds and machine had certain dumb mistakes built in, which would require new molds. Gritting my teeth, I started over (fortunately, not from scratch), hoping to incorporate some improvements suggested by various recipients of the trial copies.

"Meanwhile, I started a new position at B****g, and my wife became a full-time student again (after 15 years).

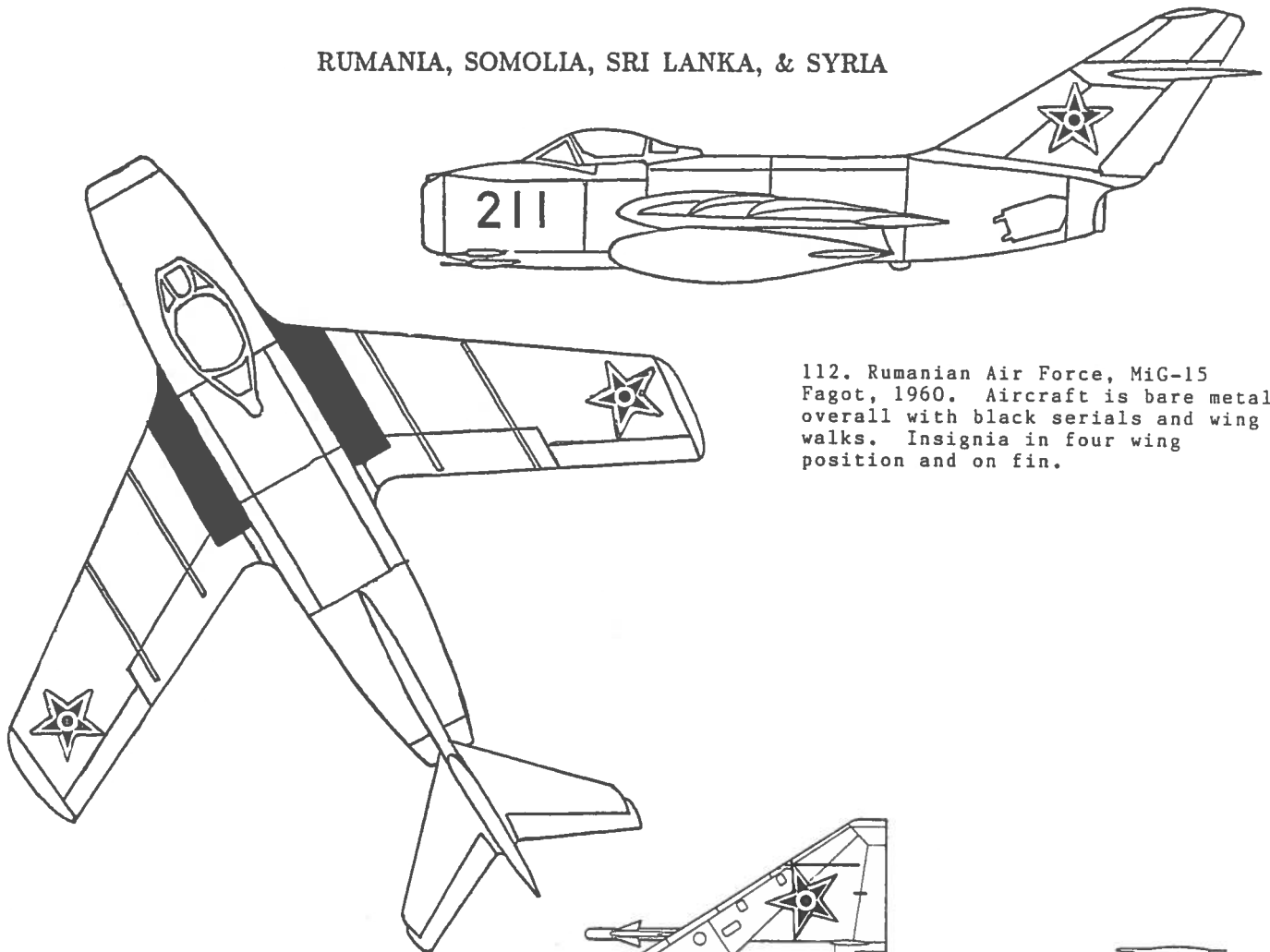
"After a couple of months on the Advanced Tactical Fighter program, we were suddenly in a sub-contractor role, which meant that we got to spend a lot of time in Burbank. Much of the kit rework took place in a hotel room (I wonder if anyone heard the dremel tool, and, if so, what they thought it was?).

"So enough of the excuses. The new master parts are done (and have been since the end of June, when the Burbank panic started up again). I will try to make molds, etc. by Thanksgiving, and send out kits before Christmas. DON'T SEND ANY \$10 YET!!!"

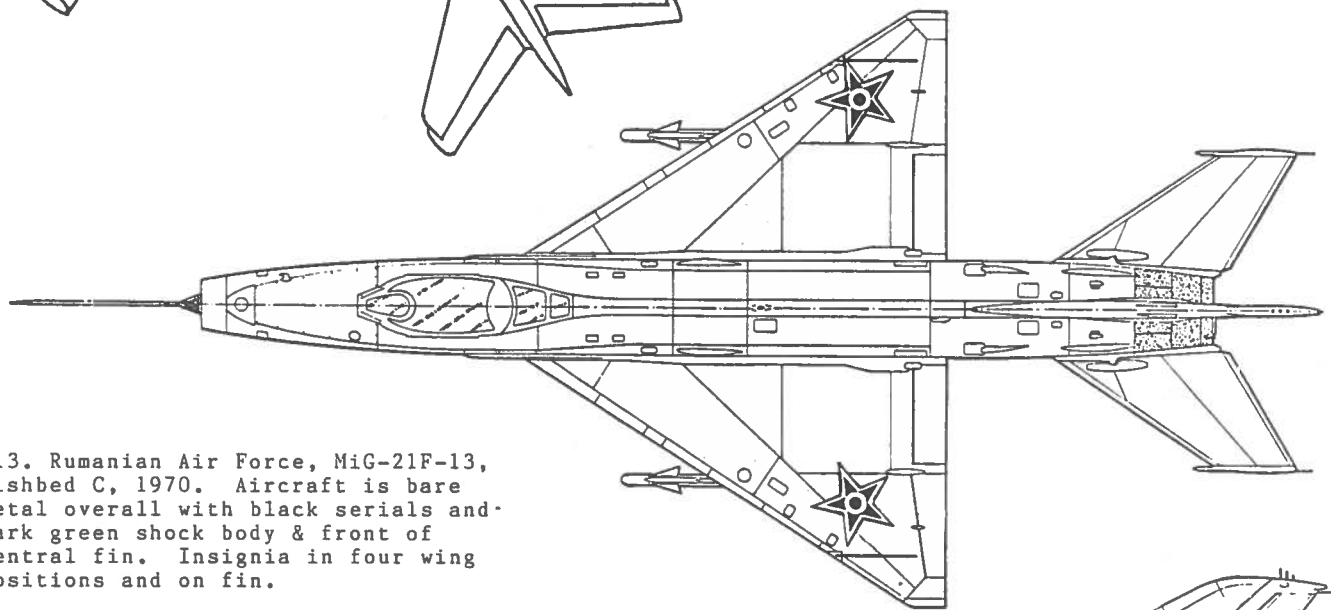
Wesley Moore (SAFCH #84), 5802 N.E. 59th St., Seattle, WA 98105

MIG MANIA

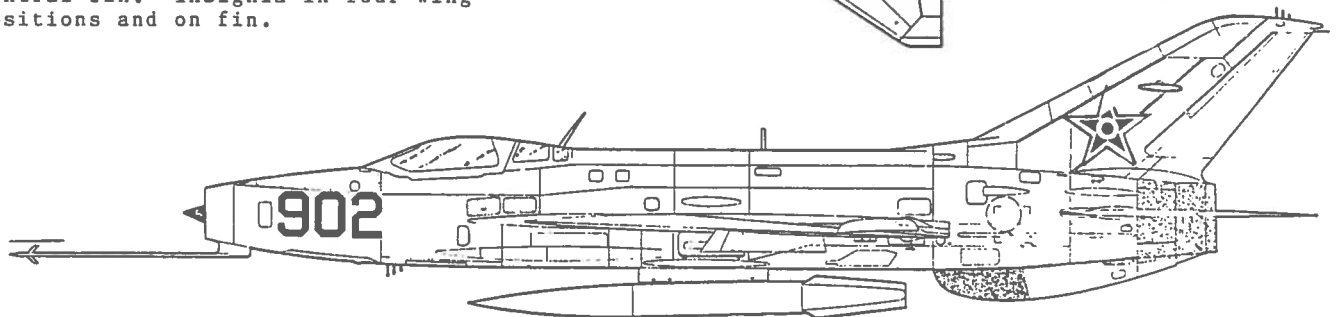
RUMANIA, SOMOLIA, SRI LANKA, & SYRIA

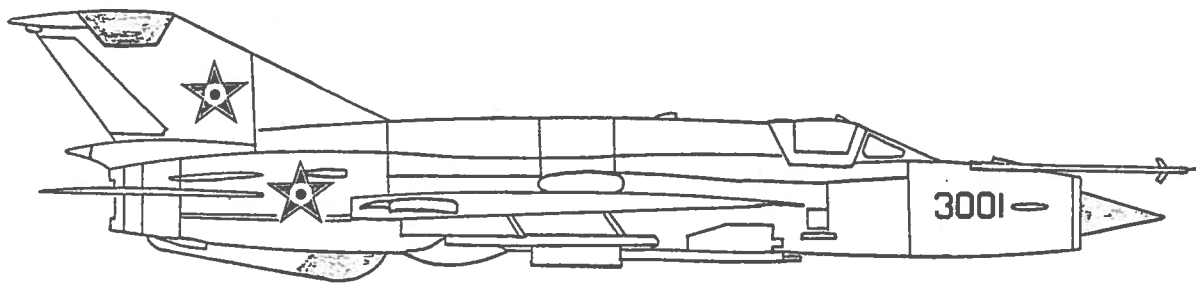


112. Rumanian Air Force, MiG-15 Fagot, 1960. Aircraft is bare metal overall with black serials and wing walks. Insignia in four wing position and on fin.

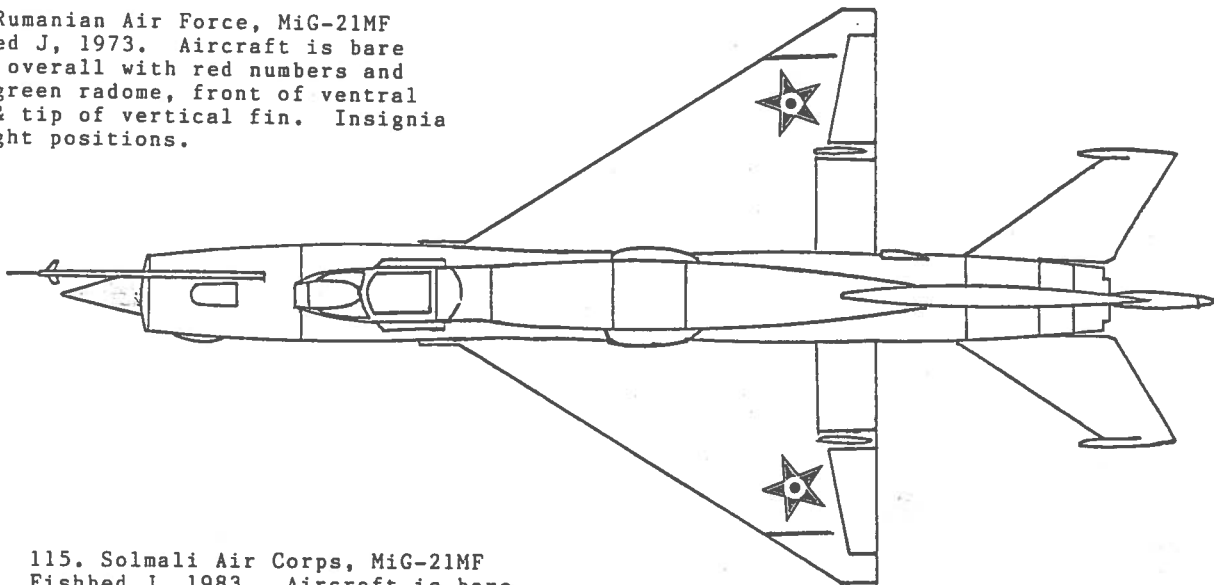


113. Rumanian Air Force, MiG-21F-13, Fishbed C, 1970. Aircraft is bare metal overall with black serials and dark green shock body & front of ventral fin. Insignia in four wing positions and on fin.

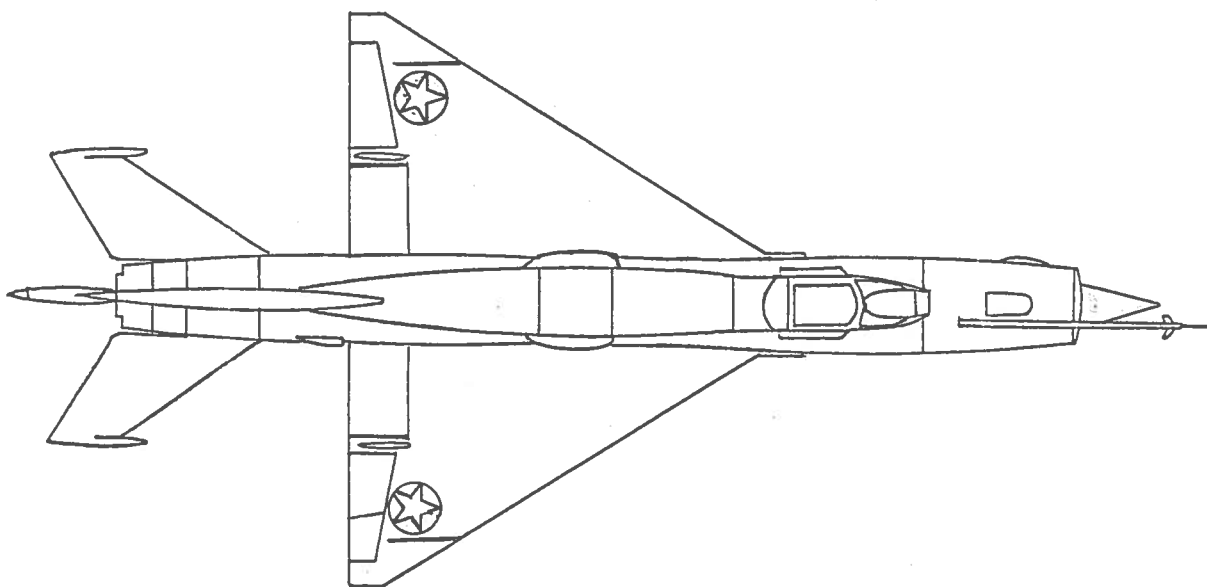
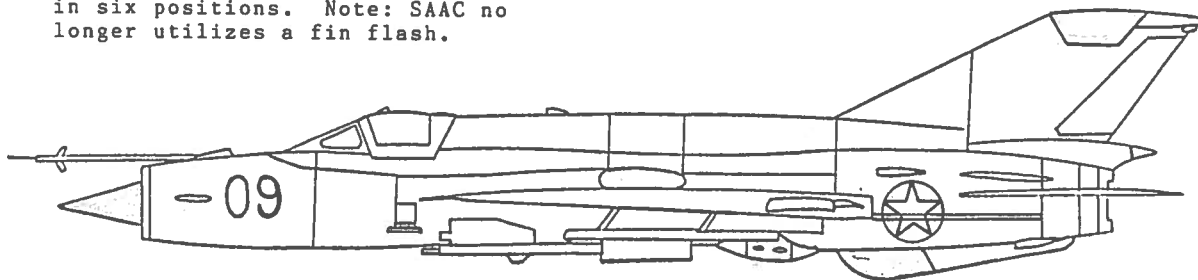


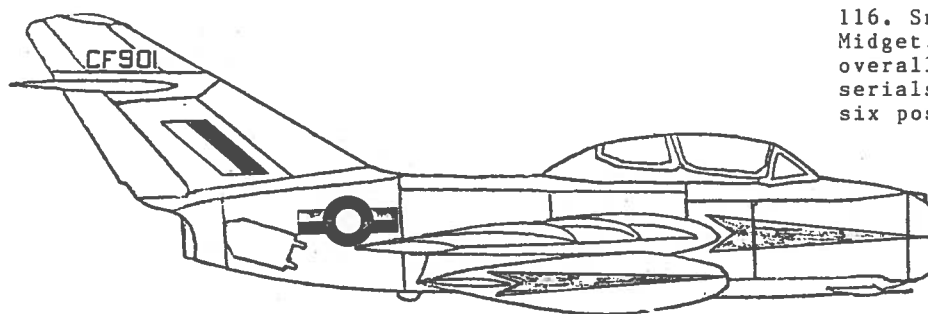


114. Rumanian Air Force, MiG-21MF
Fishbed J, 1973. Aircraft is bare
metal overall with red numbers and
dark green radome, front of ventral
fin, & tip of vertical fin. Insignia
in eight positions.

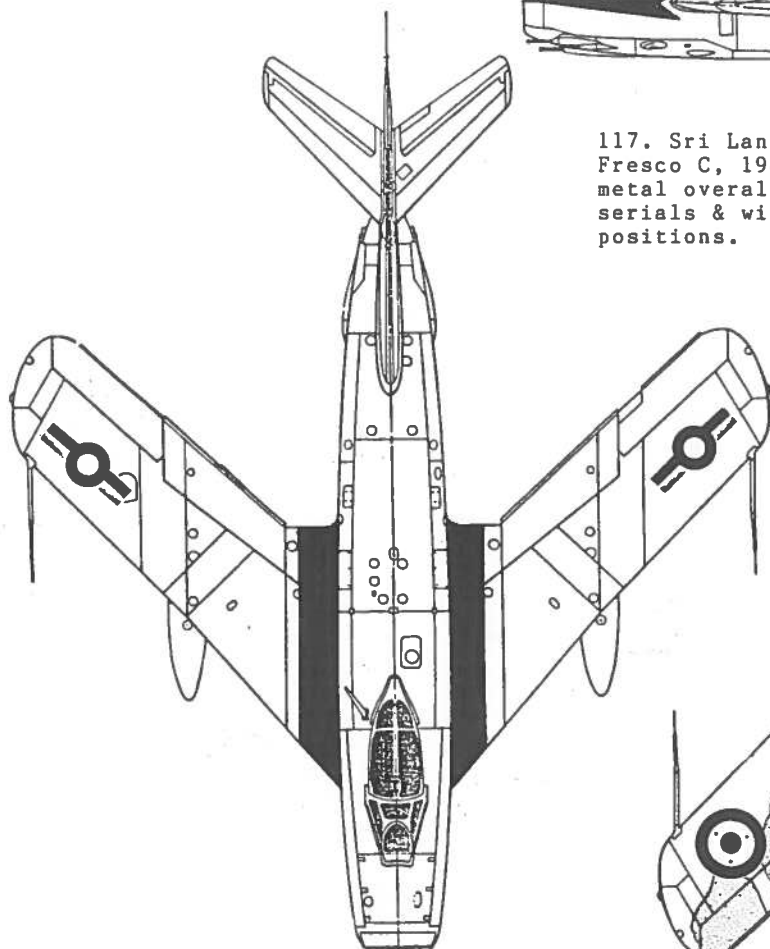
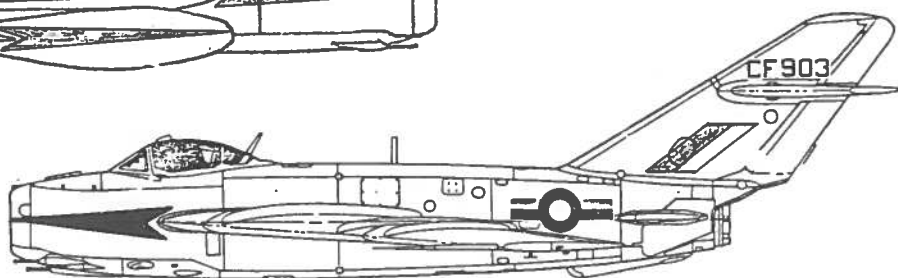


115. Somali Air Corps, MiG-21MF
Fishbed J, 1983. Aircraft is bare
metal overall with black serials and
dark green radome, front of ventral
fin, & tip of vertical fin. Insignia
in six positions. Note: SAAC no
longer utilizes a fin flash.

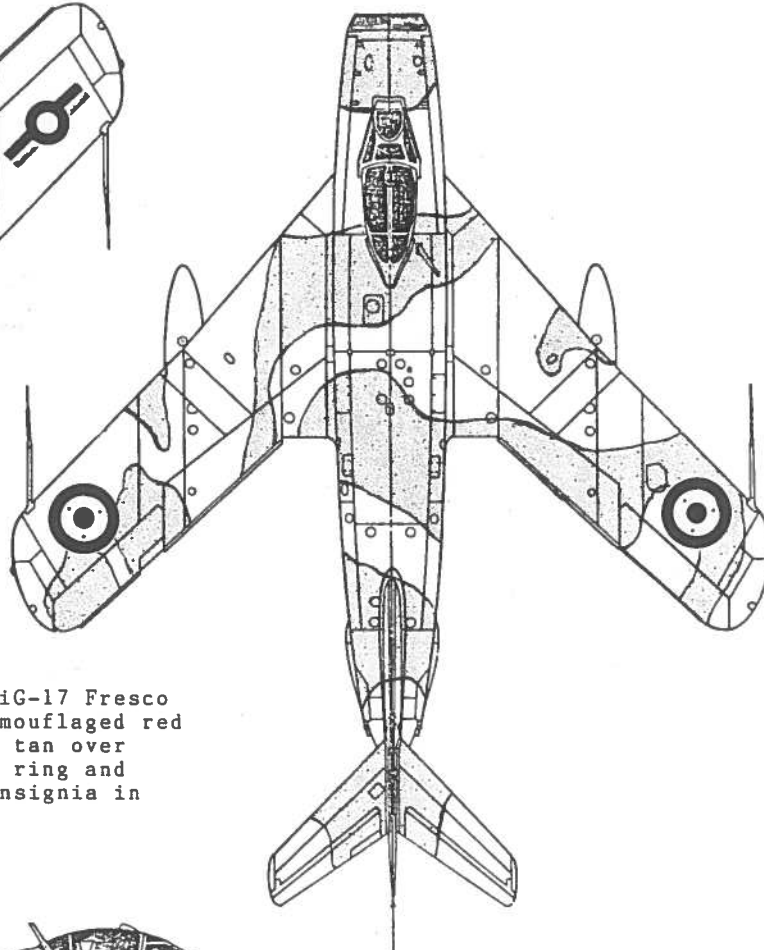




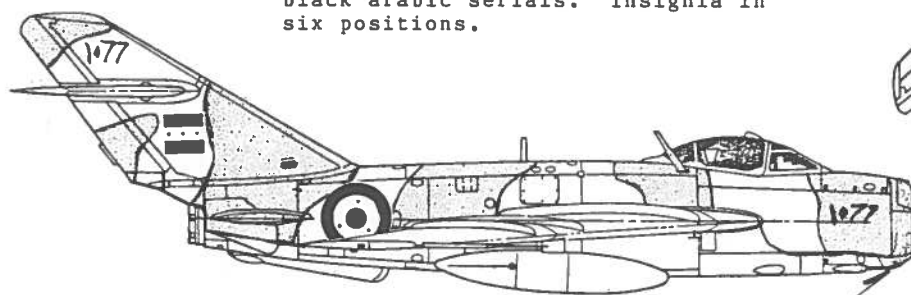
116. Sri Lankan Air Force, MiG-15UTI Midget, 1983. Aircraft is bare metal overall with red trim and black serials & wing walks. Insignia in six positions.

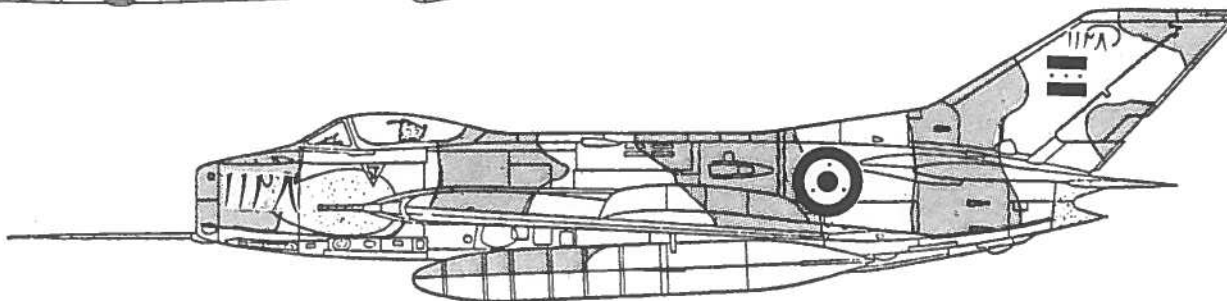
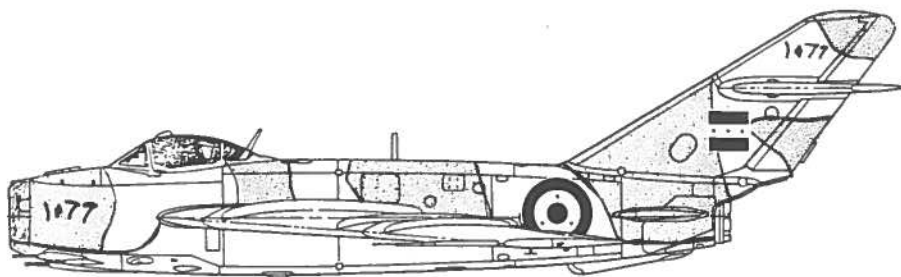


117. Sri Lankan Air Force, MiG-17F Fresco C, 1983. Aircraft is bare metal overall with red trim and black serials & wing walks. Insignia in 6 positions.

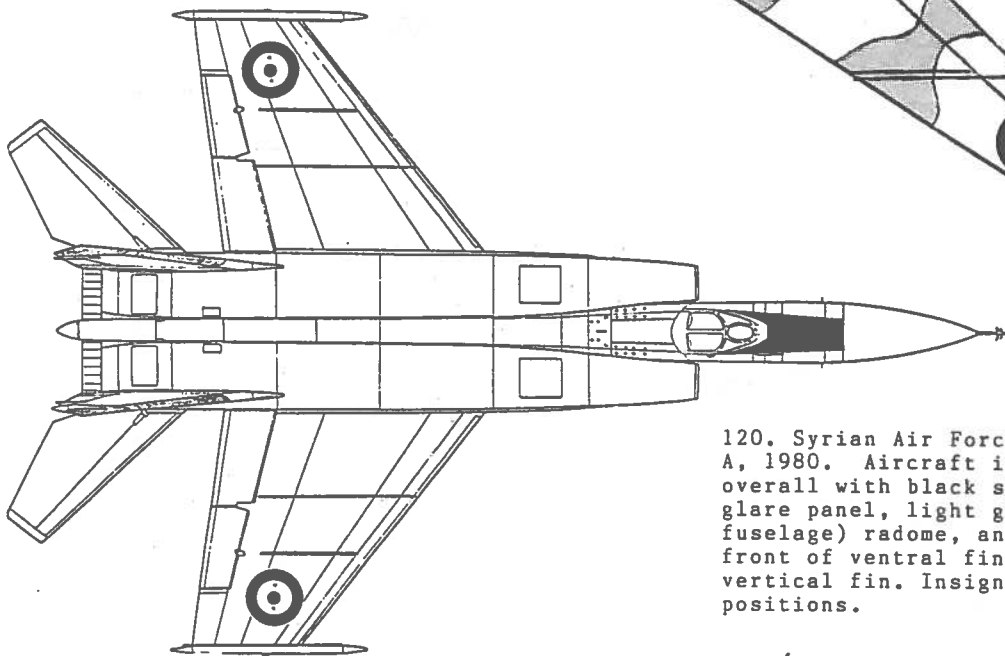
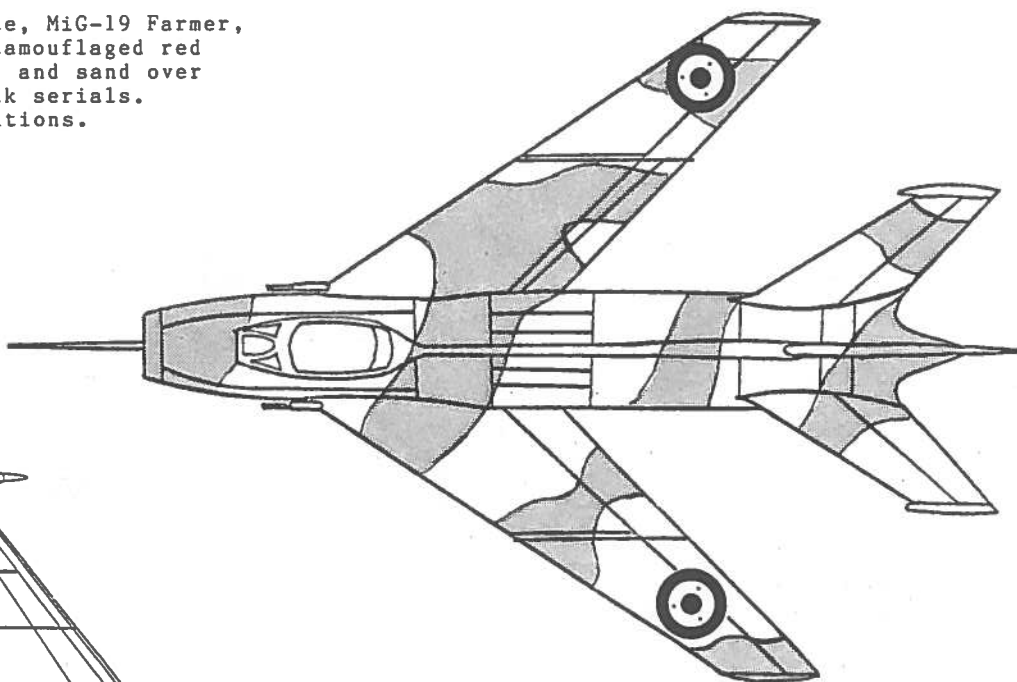


118. Syrian Air Force, MiG-17 Fresco C, 1967. Aircraft is camouflaged red brown (dark shading) and tan over light blue with red nose ring and black arabic serials. Insignia in six positions.

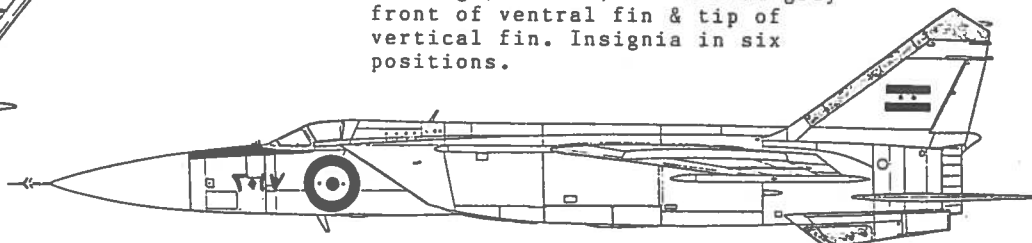




119. Syrian Air Force, MiG-19 Farmer, 1963. Aircraft is camouflaged red brown (dark shading) and sand over light blue with black serials. Insignia in six positions.



120. Syrian Air Force, MiG-25 Foxbat A, 1980. Aircraft is light grey overall with black serials & anti-glare panel, light grey (darker than fuselage) radome, and medium grey front of ventral fin & tip of vertical fin. Insignia in six positions.



MIG MANIA PO POLSKU A Protest Song

"I am thankful that the SAFO series on the MiG did not forget about the Polish Air Force, but can you tell me what transgression the Polish people have committed to require that our aviation be treated so poorly? In SAFO #43, two very important rules for marking PAF aircraft have been violated: (1) Tactical numbers on PAF MiGs have always been painted in RED - never in black. And, (2) the PAF insignia was never carried on the upper surfaces of the wings. (The only exceptions to this latter rule were some test and prototype machines.)

"The MiG shown in drawing #107, should not be a MiG-15, but a Polish-built LIM 1 with a different type canopy and underwing tanks. The pilot of this aircraft was por. pil. Ryszard Grundman of the 1st Fighter regiment 'Warszawa'. This aircraft had a red lightning bolt (outlined in white) below the cockpit to denote the chief training instructor, and the chessboards on the lower surfaces of the wings were painted parallel to the leading edges of the wings.

"On Polish MiGs, The chessboard insignia was the same size in all positions. There were at least three different types of national insignia used on Polish MiGs: (1) The standard insignia was similar to that shown in the article. (2) An insignia without any white areas. And, (3) A stencil-type insignia of which there were at least 2 subtypes. Also, it should be noted that on 7 December 1955 the proportions of the chessboard were changed; the outline was increased to a width of 1/5th of the inner dimensions.

"I am not sure how many different styles of numerals were used on Polish MiGs, but I am sure that I never saw the style shown in MIG MANIA.

"Missing for the MIG MANIA section of Polish aircraft were the PAF MiG-19s and the very interesting camouflaged UTIMiG 15s, MiG-17s, and MiG-23s.

"Anyone interested in the subject of Polish MiGs should consult such publications as 'Polski samolot i barwa', 'Skrzydłata Polska', 'Technika Lotnicza i Astronautyczna', and the TBUs on the MiG-21, -15, -17 & -19. Most of these are available through the SAFCH Sales Service.

"Although it is not my areas of interest, I will write an article for the SAFO which will include Polish MiGs you have never seen before as well as details and dimensions for the various forms of the chessboard insignia. In the meantime, I will be happy to answer any questions our readers may have.

"MIG MANIA has reached the letter 'P', but there is one important user omitted. Israel operated at least three MiG-21s (one of them the very popular '007' nicknamed 'James Bond'), two MiG-15s, and 4 or 5 MiG-17s. In addition, Israel had two Su-7s and an unknown number of Yak-11s. What other captured types were used by Israel? I am interested in all aircraft captured by Israel, especially those that carried the 'Star of David' insignia. For many years I have been looking for details of these machines, particularly photos and camouflage schemes. I have photos of the MiG-21-F13 '007' and of two MiG-17s - one with Syrian and another with Egyptian insignia. Can anyone help with more information?"

Pawel Przymusiala (SAFCH #801), ul. Długosza 8m27, 01-174 Warszawa, POLAND

More MiG Mania Corrections and Polish D-VIII Corrections

"Polish MiGs never ever carried black serial numbers. On bare metal aircraft, all serials were and are red. On camouflaged aircraft, they were and are white, yellow, or red, but never black.

"From 1945 on, the Polish national insignia has been carried in only six positions; aft fuselage, vertical stabilizer/fin, and lower surfaces of the wings, but never on upper surfaces of the wings. On some LiM-5 and -6 and Mig-21, the national insignia are painted in only four positions; on vertical stabilizer and lower surfaces of the wings.

"The notes on LT Stec's Fokker D-VIII had some errors which were carried over from the source. (a) The horizontal stabilizer and rudder were covered with lozenge fabric as clearly seen on a photo I have of this aircraft taken from the 3/4-rear position. (b) The horizontal "8" was carried on the Fokker E-V of LTs Peter or Bastar. (c) The Fokkers flown by LT Stec had serial numbers 185/17 and 187/176.

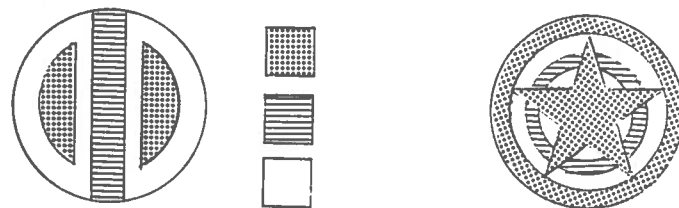
"My second book on Polish aircraft colors and markings, GODŁO I BARAWA W LOTNICTWIE POLSKIM 1939-1945, is finally available. The printing process took five years."

Tomasz Kowalski (SAFCH #121), ul. Moniuszki 30m3, 87-100 Torun, POLAND

(Editor's Note: A full review of Tomek's new book appears elsewhere in this issue.)

Postwar Bulgarian Insignia and MiG Mania Corrections

"The first post-war Bulgarian insignia was the colorful disk (Fig. A) that was used on the fuselage and all wing positions during 1946-47. This insignia appears on the Arado Ar-196 currently on display at the Naval Museum at Varna.



"I have no information about the use of the second insignia (Fig. B) except that it was used during 1948-49.

"The next insignia, adopted in 1950, was a red star with white outline and with a small roundel in the center (white, green, red, & white from the center outwards). This insignia and its variations is carried in 8 positions. It appears on the Yak-23, Tu-2, & Yak-9U currently on display in Sofia. (The lack of a white center in roundel of the insignia on vertical stabilizer of the Yak-23 (red serial 42) is a mistake by the restorers. This machine is in general poorly restored.)

"The red-star insignia has changed little over the years. Occasionally, a thin red outline has been added to the star while the roundel remains unchanged; I've this insignia on military An-24s. Another form, probably used in parallel with the above, has a different roundel (red, white, & green from center outward).

(Continued on page 119)

TAIL-DRAGING JETS & FLYING WINGS FROM TURKEY

For a number of years, Plastic Models Turkey has been producing 1/72-scale injection-molded kits. These kits were both hard to obtain and (except for the decal sheets which covered unusual markings) were really not worth much effort to find since the kits duplicated subjects already available (Spitfire, Mirage III, T-38A, & F-5A). There was one excellent kit of the SIAT 223 Flamingo in 1/48 scale, but otherwise their kits seemed to be directed towards the domestic market. Now PM Turkey has branched out into original subjects and they have joined up with an English distributor, who is making these kits available through convenient outlets. This is probably the best news for the modeler of the aircraft of the small air forces since the revival of the Polish kit industry.

YAK-15 1/72 scale injection-molded kit. Pioneer 2 Models. Made in Turkey, assembled and distributed from the UK.

This kit has been available for some time, but only recently have I received several directly from Turkey for sale through the SAFCH Sales Service.

The Pioneer kit of the Yak-15 is a simple kit. It consists of two fuselage halves and a single sprue of 17 parts molded in a light tan plastic, and a clear canopy. Each side (port and starboard) of the wing is molded in one piece and cockpit detail consists of a one-piece floor/seat with separate control column but no instrument panel. Blanking plates are provided for intake and exhaust openings. There is no interior detail on either the sides of the cockpit or in the wheel wells.

But, don't let the simplicity of the kit fool you. The tooling is well done and the kit should work up into an attractive model. Surface detail is frugal (as it should be on this aircraft) and consists of engraved control surfaces and very fine raised panel lines. There are sink marks at the location of each of

the alignment pins, but otherwise the molding is excellent. The canopy, in particular, is very well done; clear and thin.

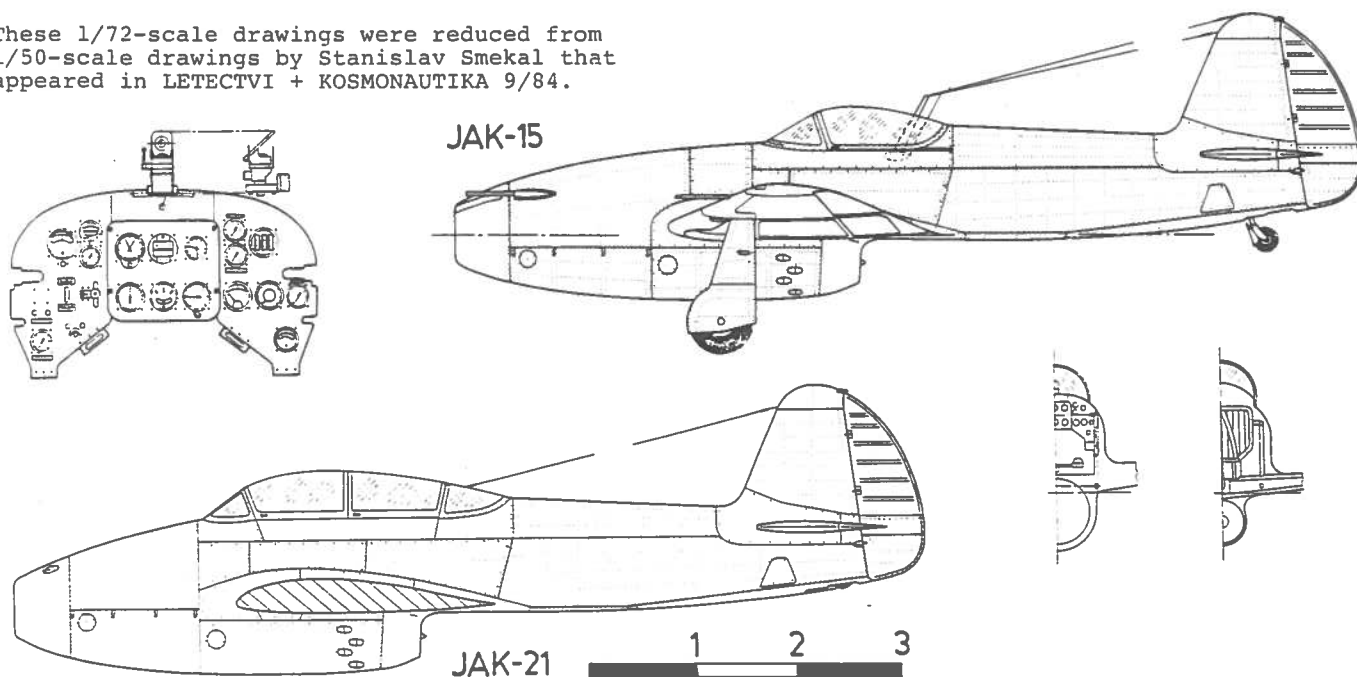
The instruction sheet is small and should not be needed by any but the inexperienced beginner. Decals are good and include insignia and markings for two Soviet machines: number "20" in a green over light blue scheme, and number "56" in a winter camouflage of overall white. Anyone who has ever tried to find the right sized Soviet numbers with their thin outlines (or tried to make them, as I did) will appreciate this sheet. The kit comes in a very attractive cardboard box with a painting of the aircraft on the front and color side- and split-plan-view drawings for both aircraft on the back.

One of the reviews I have read of this kit criticized the lack of accuracy in the shape of the fuselage as views from the side. I check the shape of the fuselage of the Pioneer kit against that of the vacuform kit by Waku of Poland; they were virtually identical. Next, I compared to the 1/50-scale Yak-15 drawings in L+K 9/84 and again I found very little difference. These later drawings are reproduced here in 1/72 scale so that you can compare the kit to the drawings for yourself. These drawings also include interior detail for those of you who would like to improve on this aspect of the model. Also included is a side-view drawing of the two-seat version, the Yak-21 for those who would like to make something different.

The Pioneer kit of the Yak-15 is a simple but attractive little kit that is ideal for both the beginner (particularly one learning how to use body putty to fill sink holes) and the expert looking for something unusual to add to his collection. They are inexpensive enough that you will want to pick up several.

A few of these kits are available from the SAFCH Sales Service for \$3.00 including postage.

These 1/72-scale drawings were reduced from 1/50-scale drawings by Stanislav Smekal that appeared in LETECTVI + KOSMONAUTIKA 9/84.



Horten Ho-229A-1 (Ho-IX), 1/72-scale injection-molded kit. Made in Turkey, assembled and distributed from the UK.

In this day of kits with photo-etched brass parts, cast metal parts, rubber wheels, wiring, etc. and costing \$60.00, I am going out on a limb to suggest that the "Model of the Year" award go to a kit containing just 16 parts, no interior detail at all, and costing one-tenth as much as the so-called "High Tech" kits. To make matters worse, the kit is not even of a small-air-force subject. However, anyone who dares to produce a kit of such an unusual subject and do such a great job at such a low price deserves my nomination.

The Horten IX (alias Go-229) was a twin-jet powered flying wing which first flew in January 1945. Although flying wings have appeared as vacuform kits (Airmodel did the Go-229), this kit is, to my knowledge, the first injection-molded example of this "raris avis". I hope it is not the last.

The kit of the Horten IX from PM Turkey contains only two large parts (top and bottom) and a small sprue with 13 parts molded in light grey plastic. Interior detail consists of a poor seat and two sets of blanking plates for the intakes and exhausts. There is no detail in the wheel wells and the gigantic nose wheel is molded as one part with the nose-wheel leg. The canopy is clear and thin.

The instruction sheet is simple but the exploded views are more than sufficient. Decals consist of only 4 German crosses. The cardboard boxes features an attractive painting of a prototype in light blue (RLM76) with a gray/violet mottle, and a color three-view drawing (top, bottom, & port side) of the machine at the National Air and Space Museum with the upper surfaces in bright green (RLM82) with dark green (RLM83) mottle and light blue (RLM76) undersurfaces.

I suppose this review tells more about my modeling interests than it does about the kit, but what review doesn't? However, if your modeling tends to be the least bit exotic, you will want to build at least one of these kits. After you've built it, you will find yourself waiting eagerly for the next release by the newest star in the modeling firmament - Pioneer Models.

A few of these kits are available from the SAFCH Sales Service for \$5.00 including postage.

Resin-Cast Kits from Replica

"A small company in Paris which has become successful in the production of resin-cast epoxy aircraft kits now markets 43 kits in 1/72 scale and 9 in 1/48 scale. Included are many Spanish Civil War and other small air force subjects previously unavailable even from sources in Czechoslovakia.

"Kits of Spanish Civil War subjects in 1/72 scale include the Dewoitine D-371, Dewoitine D-27, Gourdou-Leseurre GL-32 (conversion possible to GL-633), La Cierva C-30/LeO C-30 Autogiro, (all unavailable from Cz.); and the Arado Ar 68, Arado Ar 95L (wheels), Arado Ar 95W (floats), Breguet XIX LD 12 Db, Breguet XIX LD 12 Elizalde, IMAM Ro-37(bis?), Loire 46C (corrected wingspan?), Latecoere 28/29, Polikarpov I-15, Polikarpov R-Z, Potez 25 Salmson, Potez 25 Jupiter (used

over the Basque Country). Kits of Spanish Civil War subjects in 1/48 scale include the Polikarpov I-152 and Polikarpov I-153 (possibly used in SCW) both unavailable from Cz.; Polikarpov I-15 and Polikarpov I-16 Type 10.

"Other kits of interest to the small air force enthusiast are the Aviatik DI Berg, Breguet Br 1050 Alize, Dewoitine D-26, Hispano Aviacion HA-200 Saeta, Hispano Aviacion HA-220 Super Saeta, Koolhoven FK 58, Loire-Nieuport 411, Hansa Brandenburg W 29, Potez 25A2, Salmson 2A2, Stampe SV 4B, S.O. 6025 'Vautour' II (A, B, or N), and Yakovlev Yak-6 all in 1/72 scale; and the Morane-Saulnier MS 406, Morane-Saulnier MS 410, Pilatus D-3801 (Swiss MS 406), and Morko Moraani (Finnish MS 410) in 1/48 scale.

"Prices range from 180-220 French Franks, not including postage, from: Replica, 3 rue de l'Asile-Popincourt, 75011 Paris, FRANCE. These prices, equivalent to \$30-37 might be improved upon for American modelers by writing to: Unique Models, #22 Brandies Rd., South Tom's River, NJ 08757."

Tom Sarbaugh (SAFCH #497), #21 Live Oak Rd., Berkeley, CA 94705.

Roberts Model Liberty V-12

"I read the review of the JN-4 Jenny vacuform kit in the July issue and I would like to say that I have the Liberty V-12 engine (with stacks) in the Roberts Model line. The line has been expanded to include this and other WWI items. Also, several of the radial engines are now in metal.

"I am now working on 1/48 and 1/32 scale masters for items similar to those in 1/72 scale."

Jeff Roberts (SAFCH #617), 18 East Clay Ave., W. Hazleton, PA 118201

(Editor's Note: Jeff included his most recent catalog and several examples of his new releases for review. His list is growing longer and now includes props, engines, seats, machine guns, spinners, undercarriage legs, instrument panels, etc. - all for around a \$1.00 or less.

All parts are molded in tan plastic with thick gates and a fair bit of flash, but after the parts are cleaned up they look very good. Among the review sample were two engines: The Liberty V-12 (\$1.00) comes in 5 parts; the crankcase is split vertically with 6 cylinders on each half, the front plate and propeller shaft are separate, as are the exhaust manifolds. The Mercedes (\$1.00) is molded in one piece with separate exhaust manifolds of two different types. Also received for review were a pair of wheels (\$1.00) 13 x 3 mm with smooth thread. A pair of undercarriage struts (\$0.50). A pair of Parabellum machine guns (\$0.50). A set of instrument panels (\$1.50) with 6 small and 2 large. A sprue with radio fronts, throttle quad & column, and a Norden bombsight (\$1.00). As an example of the variety available, he has 4 different sizes of WWI wheels and 11 different sizes of other wheels, some with thread and some smooth.

Jeff's assortment is much greater than I can indicate here, so send for a catalog. Many parts, especially those whose shape and size would be difficult to describe in words (e.g. spinners & undercarriage legs) are illustrated in full scale in the catalog. Minimum order is \$4.00.

Ventura Decals from NZ

Messerschmitt Bf-109B/C/E/G Insignia (1/72 and 1/48 Scale), Ventura Decals.

Perhaps produced to complement the recent Falcon Vacuform kits of the Bf-109B/C in 1/48 scale, another New Zealand company has released decals for the Bf-109 in both 1/72 and 1/48 scales. I received a photocopy of these sheets from Bob Pflaum of Imported Specialties, 3655 Sullivant Ave., Columbus, OH 43228. They are selling these two sheets for \$5.50 each plus \$1.00 postage within the USA.

Ventura Decals #7203: Messerschmitt Bf-109 B/E/G (Spanish, Finnish, Croatian) in 1/72 scale includes markings for the following: (1) B2 '6-56' of the Spanish Nationalist Ejercito del Aire post-Civil War with Yoke & Arrows in the fuselage disk. This aircraft was flown by G. Handrick and W. Grabmann of the Legion Condor during the Civil War. (2) E '6-127' of the Ejercito del Aire, also post-Civil War. (3) G10 '4' of Kroat Jagdstaffel, November 1944. (4) G5 'MT-422' of HLeLv 31, Utti, 1948 with bat on moon on blue cloud insignia. (5) G2 'MT-201' of HLeLv 34, Utti, 1944, flown by "ace" Maj. Eino Luukkanen. (6) G6 'MT-452' of HLeLv 24 and which still survives in a museum. (7) G6 'MT-501' with both swastikas and white/blue/white roundels.

Ventura Decals #4803: Messerschmitt Bf-109 C/E/G (German, Spanish, Finnish, and Croatian) in 1/48 scale includes markings for the following: (1) C '10' Luftwaffe shark-mouthed of II/JG51. (2) E '6-127' Ejercito del Aire, port-Civil War. (3) G10 '4' of Kroat. Jagdstaffel. (4) G5 'MT-422' of HLeLv 31, roundels and bat insignia. (5) G6 'MT-453' of HLeLv 31, roundels, port WWII.

The bat on the moon insignia is close to that used (without the cloud background) by Spanish Republican Polikarpov R-5 "Rasante" night bombers in the summer of 1937. This marking might be adapted from the Finnish HLeLv insignia of 1948, although the crescent moon is slightly small in proportion to the bat.

In general, the decals seem clear and have sharp register. Modelers of Bf-109s will find these decal sheets useful for their collections."

Tom Sarbaugh (SAFCH #497), 21 Live Oak Rd., Berkeley, CA 94705

The Flight of the Lithuanica II

THE SECOND TRANSATLANTIC FLIGHT, Edmund Jasiunas. Hard-bound, 8.5 inches by 11 inches, 197 pages. Published by the Felix Waitkus Album Committee, Chicago, Illinois 1986. \$20.00 (\$15.00 for SAFCH members) postage and handling included.

"After the tragic death of S. Darius and S. Girenas on July 17, 1933, Lithuanian Americans started planning the Second Transatlantic Flight. The American-Lithuanian Trans-Atlantic Flight Association (ALTAFA) was founded and a Lockheed "Vega" type airplane was purchased. When the pilot originally selected to do the job resigned, the project was offered to Lt. Felix Waitkus. With the help of his father-in-law Anton F. Brotz, Sr., F. Waitkus rebuilt the "LITHUANICA II" and made her fully suitable for the task. After desperately waiting for more favorable weather conditions, on Sept. 21, 1935, F. Waitkus finally took-off from Floyd Bennett Field, N.Y. for a 4500-mile journey to Kaunas, Lithuania. A few hours later he flew into fog, rain, head-winds and

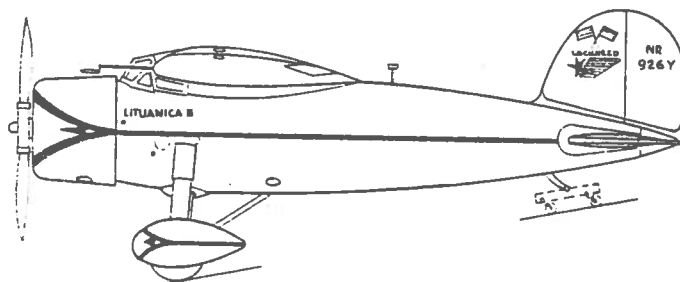
icing conditions, forcing him to fly by instruments most of the time. After 22:15 hours of strenuous flying, being short of fuel and physically exhausted, Waitkus crash-landed in Ireland, near Ballinrobe. He was the sixth pilot to cross the Atlantic solo and the only pilot to make such a crossing in 1935."

These are the bare bones of the story so magnificently told by SAFCH member Ed Jasiunas in words and pictures in his second book on the transatlantic flights by Lithuanian-Americans. The text, which carries the story from the inception of the idea, through the process of preparing the plane for the flight, ending with the flight, the crash, and Waitkus' reception in Lithuania, occupies only 52 pages of the book (equally divided between version in the Lithuanian and English languages). Since the bulk of the book, 150 pages, is devoted to photos, the book is properly subtitled a Photo Album. Pride of place rightfully belongs to the LITUANICA II itself; in its original form, as modified for the transatlantic flight, after the crash in Ireland, and in Lithuanian Air Force service. (After the occupation of Lithuania by the Soviets in 1940, the LITUANICA II disappeared from history.) A 3-view drawing of the aircraft, color information, and many close-up photos of the markings will allow the modeler to produce an accurate replica of this colorful aircraft either in transatlantic markings or in the markings of the Lithuanian Air Force. (This later should be welcomed by the modeler of 1/48-scale aircraft who has the AMT kit of the Vega since there are so few 1/48-scale kits that can be done in Lithuanian markings. The situation in 1/72 scale is not much better, so it is too bad that there is no 1/72-scale kit of the Vega.) The only other photos in the book of Lithuanian aircraft are of the Anbo IV-61 in which Waitkus was flown in Lithuania and few aircraft which are total obscured by people standing in front of them. On a sad note, as I look at the faces of the Lithuanian school children who greeted Waitkus in 1935, I can't help wondering what horrors the future had in store for these happy children.

The quality of the production of this book is outstanding. Printed on high-quality paper, the photos, despite their age, are sharp, clear, and in perfect contrast. It makes you wonder if the excuse of age used for fuzzy photos in other books is just that - an excuse. In any case, the photos in this book can be used as a standard against which you can judge photos in other books. This is the kind of a book you might expect to have to pay up to \$40.00 for; at \$20.00 its a bargain; and at \$15.00 to SAFCH members its a steal. Only 500 copies of this book were published, so I advise you to get yours quickly.

Send \$15.00 to Edmund Jasiunas, 3704 W. 70th Place, Chicago, IL 60629. And, don't forget to mention that you're a member of the SAFCH.

Review copy generously provided by author.



Aircraft Flown by Czechoslovak Pilots

LETADLA CESKOSLOVENSKYCH PILOTU by Vaclav Sorel. Hardbound, 14.5 cm by 20 cm, 448 pages. Albatros Praha 1986 (48 Kcs). Available through the SAFCH Sales Service for \$10.00.

Since five copies of any book is a large inventory for the SAFCH Sales Service, the reader should be suspect of any review I write of such a book. However, LETADLA CESKOSLOVENSKYCH PILOTU is such a good book and is so reasonably priced that the reader should ignore the possibly of bias.

A reader of this book does not have to know the fine points of the Czechoslovakian language to determine the meaning of the title of this book. A glance through the pages instantly reveals the author's intention; to present information on every aircraft type flown by Czechoslovak pilots since 1918. Each aircraft type is given one full page, but this does not quite come to 448 types since a couple of pages of text introduce each of the eight chapters and there are several appendices and an index. I count 373 types.

Each page consists of an color side-view drawing of the aircraft in the markings of a Czechoslovak pilot, about a half-page of text, and a list of dimensions and performance data. Any reader who has had experience reading the instruction sheets from KP kits should be able to pick up most of the pertinent information from the text, but a Czechoslovak/English dictionary would help in determining some of the finer points. The color drawings are uniformly outstanding with interesting subjects chosen and excellent color reproduction. A 34-page appendix gives color top-view drawings of most (but not all) of the aircraft described. A 12-page appendix presents color drawing of national, squadron, factory, and individual emblems.

The first chapter presents military aircraft 1918-1939 and starts off with an Albatros DIII (Oeffag), Fokker D VII, Nieuport XVII, Spad VII, Spad XIII, Breguet Bre.14, Anatra DS, Hansa-Brandenburg C.I - so far so good, everything is available in 1/72 scale either as injection molded or vacuform; but now thing turn exotic - Letov S-1, Aero Ae-02, etc. The remaining 31 types in the chapter include some that can be modeled from kits, thanks mostly to KP and to Czechoslovak vacuforms: the Avia BH-3, Avia BH-11, Letov S-16, Avia BH-21, Letov S-231, Letov S-328, Aero MB-200, Avia F-VIIb, Avia B-71, Aero A-300, Avia B-534, and Avia B-35. The remaining aircraft include many types that we can hope will be considered by KP: Letov S-20, Aero A-100, Praga BH-39, and (my favorite) the twin-engined Praga E-51.

The next chapter covers 72 different types of military aircraft from the 1939-1945 time period. This includes not only such familiar types as the Hurricanes, Spitfires, and Wellingtons used by the Czechoslovak squadron in the RAF and the LA-5FNs, Il-2m3s, and Po-2s on the Eastern Front, but also D-510s, Potez 540s, and I-16s flown by Czechoslovak pilots in the Spanish Civil War. Also covered in this chapter are aircraft flown by Czechoslovak pilots while in Polish and French service. The aircraft of the Slovak National Uprising are represented by only 6 aircraft; one of the few disappointments of the whole book.

The third chapter cover military aircraft used since 1945 with 49 types represented including aircraft designed in Germany, Russia, and Czechoslovakia. With the La-7 (S-97),

Spitfire (S-89), Il-2m3 (B-31), Pe-2FT (B-32), DH Mosquito (B-36), Bf 109 (S-99), Me-262 (S-92), and the MiG jets there are not many surprises here for the dedicated student of the small air forces - except maybe the FW 190A-8 (S-90), Ju 87D (B-37), and Gloster Meteor (I'll need the dictionary for this latter one).

The next chapter covers military transport and training aircraft carrying the Czechoslovak national insignia. Included are such things as the Farman Goliath, Junkers W 34, Ju 352, Avro Anson, Airspeed Oxford, An-26, Piper L-4, Auster Mk.III, and Waco CG-4A. Thirty-five aircraft are covered in this chapter.

The fifth chapter covers 46 civilian transport aircraft from the Aero A-14 to the LET L-610 and includes such aircraft as the DH-50, Letov S-32 trimotor, Ford 5-AT-C, Saro Cloud, SM-73, DC-2, DC-3, Ju 52/3m, Il-14, Tu-134 Praga E-210, Aero 145, and L-200 Morava. The next chapter, the shortest in the book, covers 7 agricultural aircraft, e.g. Po-2AP, Brigadyr, An-2, Cmelak, and Dromader. The sixth chapter covers 14 military and civilian helicopters, e.g. Fa 223, HC-2, Mi-1, Mi-4, Mi-8, Mi-24. The seventh chapter covers "sports" aircraft; outside of a MS-230 and a Po-2 there are no kits of these 68 colorful aircraft and modeling is all the poorer for this lack. The last chapter covers 32 types of gliders; only 2 of these glider are available as kits: the Lunak and the Blanik (both in 1/48 scale).

This book is a must for any student of Czechoslovak aircraft. The novice will find it a great introduction, and the "expert" will treasure it as a single compact source of information covering all aspects of Czechoslovakian aviation. However, the modeler should be cautioned before buying this book; it will tempt him to start on page one and build his way through the book. While this would be a worthwhile project, it is one that would be extremely frustrating because of all the great-looking aircraft that would have to be passed up because of the lack of a kit.

This book is available through the SAFCH Sales Service.

Austro-Hungarian Fighter Markings

OFH SONDERHEFT NR.14: SONDERMARKIERUNGEN DER K.U.K. JAGDFLUGZEUGE 1916-1918 by Schroeder and Totschinger. 20.5 cm by 28.5, 165 pages, softbound. Austrian Aviation Historians, Kannegasse 1/15, A-1150 Wein, AUSTRIA. (OS 150) Payment by IMO.

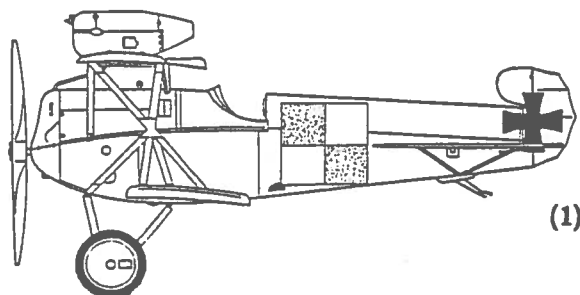
Before receiving a copy of this book, I had read several reviews of it, and I had come to the conclusion that anyone who had Martin O'Connor's book, AIR ACES OF THE AUSTRO-HUNGARIAN EMPIRE 1914-1918, would not need this book. Boy, was I wrong! If you are interested in the markings of Austro-Hungarian aircraft in WWI, then you will want both books.

Sonderheft #14 was written with the modeler's interest in mind. One-hundred and fifty eight aircraft are each given one full page. Four are illustrated by photographs; the remaining 154 by 1/48-scale side-view drawings. Each illustration (photo or drawing) is accompanied by text listing the unit and air base, the pilot (if known), and a description of the aircraft's color scheme and its markings.

Aircraft types covered and the number of each illustrated (in parentheses) are: Fokker A.III (2) and E.I (2); Hansa Brandenburg D.I

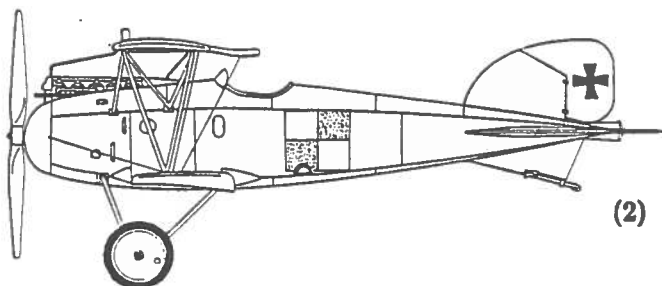
(14); Phoenix D.I (15), D.II (8), and D.IIa (3); Aviatik Berg D.I (45) and D.II (1); and Oeffag Albatros D.II (2) and D.III (66).

Since I am personally interested in aircraft flown by Polish airmen, I will use these as an example of the coverage given each aircraft. I will include only those aircraft with distinctive Polish markings. I was able to locate four such aircraft: (1) Hansa Brandenburg D.I 28.17 flown by Maryan Gawel and carrying a large Polish chessboard. (2) Albatros D.III 153.173 flown by Stanislaw Maria Tomice von Tomicki and carrying a large Polish checkerboard. (3) Albatros D.III 253.04 flown by Franz Peter and carrying a red-white yin-yang symbol. And, (4) Albatros D.III 253.117 flown by Stefan Stec and carrying his familiar horizontal "S" personal insignia.



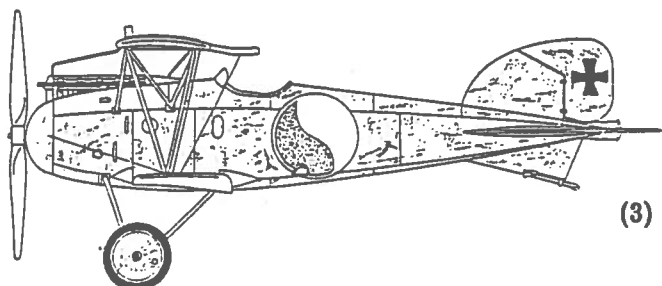
(1)

For those worried about their command of the German language, let me give the complete text for one of the above aircraft: "Oeffag Albatros D.III 153.173. Flik 3J, Romagnano (10.AK). Flzfl Lt i.d.Res Stanislaw Maria TOMICE von TOMICKI. Kein Luftsieg. Farbschema: Rumpf und Tragflächenoberseiten dunkelgrün ubert incht, Flächenunterseiten und Hohenlietwerk unten leinenfarben. Markie-

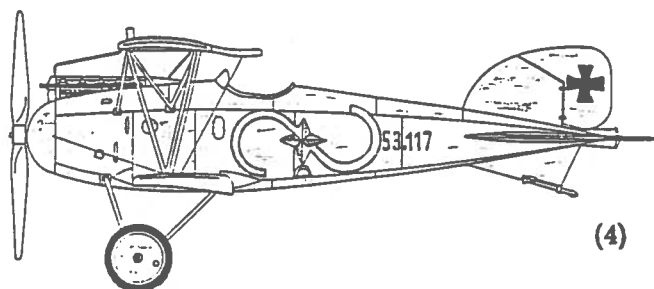


(2)

rungen: EK in den k.u.k. Standardpositionen, ohne Rand rot-weisses Schachbrett am Rumpf das Symbol der Polnischen Legion. (Lt Tomice wurde am 31.August 1918 mit 153.173 im Luftkampf mit drei Sopwith F.1 Camel der 45.Sqn brennend angeschossen und kam dabei ums Leben." A German-English dictionary should get even the most inept of us through this.



(3)



(4)

It is not easy to compare the merits of this modest book with Martin O'Connor's much more ambitious undertaking. First of all, the coverage is different: Martin covers the aircraft of only the aces, but he covers all aces, so he can include two-seaters and naval aircraft. While covering only k.u.k. single-seat fighters, the OFH book is not limited to aces so it can include many more interesting markings and camouflage schemes. It is in this latter area that the Sonderheft excels; it provides many more camouflage schemes than Martin was able to provide. Of course, there is no comparison in the quality of the printing; Martin's hardbound book is printed on glossy paper with many photos and color illustrations. The OFH product is softbound and reproduced on an inexpensive paper (although the few photos are well reproduced). This difference shows in the price; the OS 150 price for the Sonderheft converts to about \$11.80 at today's (19 Sept. '87) exchange rate.

My advice to anyone interested in the subject of color schemes for Austro-Hungarian aircraft is: If you already have Martin O'Connor's book, you will want to have the OFH book as an inexpensive "appendix". If you have neither book, get both books.

What we need now, is a good English-language description of Austro-Hungarian camouflage schemes including details of the "lozenge" pattern. If any of our Austrian readers would like to provide me with a rough translation of such an article, I would be pleased to put it into shape for publication in the SAFO. The copyright would remain with the author and he could submit the "smooth" article to any other publication of his choice. How about it, OFH?

Review copy graciously provided by the OFH.

The Polish Air Force in the West

GODLO I BARWA W LOTNICTWIE POLSKIM 1939-1945, Kowalski. Softbound, 14.5 cm by 20 cm, 192 pages. Biblioteczka Skrzydlatej Polski #42. Wydawnictwa Komunikacji i Łączności, Warszawa 1987 (240 Zł).

Those SAFCH members who purchased Tomasz Kowalski's first volume on Polish aircraft markings and colors, GODLO I BARWA W LOTNICTWIE POLSKIM 1918-1939, know what a wealth of information Tomek has on Polish aircraft. Now, after five years at the printer, Tomek's second volume, which covers the Polish Air Force in the West from 1939 to 1945, is finally available. The wait has been well worthwhile, for both the author and the printer have learned much from their first effort. The quality of the drawings and of the printing is greatly improved. Since this is a book that some of you may mistakenly dismiss as "just another book on Spitfires and Mustangs", I am

going to review its contents in some detail so that everyone can give it careful consideration.

The book begins with three tables listing the colors used on aircraft serving with the Royal Air Force, the USAAF, and the French Air Force in Europe. Listed are the Polish name, the English or French name, FS595A equivalent, and the code which identifies the color on the drawings. This is a great improvement over the color chart used in the first volume, and I hope that Tomek will come out with FS595A equivalents for the colors used in the first volume.

The aircraft flown by Poles in France are covered with 9 pages of text including the following tables: French units having Polish pilots including the commander (when Polish), the number of pilots, and the aircraft used; dimensions of the insignia used on 19 types of aircraft flown by Poles; "matricule" numbers carried by MS-406C1; and a list of Polish "chimney flight" and their aircraft. Nine pages of drawings cover the following aircraft: Potez 63-11, D-500/510, Liore 46, D-520, MB-210, Amiot 143, & MB-131. Five pages of photos follow with three photos per page; all aircraft show were flown by Polish pilots.

The largest part of the book, 110 pages, naturally concerns the Polish Air Force in Great Britain. Here we have 63 pages of drawings and 40 pages of photos. Aircraft represented by drawings are Hurricane, Beau-fighter, Defiant, Mustang, Battle, Wellington, Mitchell, Halifax, Liberator, Lancaster, Lysander, Auster, Warwick, Tutor, Tiger Moth,

Master, Martinet, Magister, Harvard, Oxford, Anson, Botha, Proctor, Henley, Dragon Rapide, & Dakota.

The final section covers Poles flying with American units and includes drawings of a P-40 and several P-47s.

Readers who have been paying attention will have noticed several important types missing from the above catalog of drawings, particularly the Spitfire and MS-406. These and more are covered in the 12-page color appendix. Aircraft shown in color side-view drawings include the MS-406, Caudron 714, Koolhoven FK-58, D-520, Curtiss 75, MB-152, Hurricane, Spitfire, Mustang, Wellington, Liberator, Lancaster, Halifax, Tomahawk, Mosquito, P-40M, Blenheim, and P-47.

The drawings are excellent, usually one aircraft to a page with views of both sides as well as top and bottom. Not all the aircraft shown carry the Polish chessboard, but they were all flown by Polish pilots. The photos are all well chosen, but their reproduction, as usual for this series, is only fair. The color reproduction is about as accurate as possible considering the printing process, and two pages in my copy suffered from poor registration.

GODLO I BARWA W LOTNICTWIE POLSKIM 1939-1945 is not a book that should be dismissed lightly. I have a rather extensive collection of books and photos of Polish aircraft from this period, but I still found much in this book that was of value to me. I will try to get some of these books to sell through the SAFCH Sales Service.

A Tale of a Whale

"AEROGRAPH 5: DOUGLAS A-3 SKYWARRIOR. Written by Rene Francillon with Edward Heinemann, this is the most comprehensive history and study yet published describing one of the world's longest-lived carrier-capable navy aircraft. A complete history of its design development, flight test, and operational service career is included in the over 100,000 words of text. Every facet of this aircraft's successful and versatile attack bomber/transport/electronic warfare equipment carrier/tanker/testbed career is included.

"The photo selection, which totals at nearly 400 images, is extraordinarily comprehensive. It is complimented by well over 100 drawings, an eight-page gatefold with numerous color scheme illustrations, and a color section depicting some of the many A-3 color scheme variations.

"Ed Heinemann, who is the designer of the A-3 and who assisted the author in assembling the data for this book, has referred to it as the ultimate A-3 history.

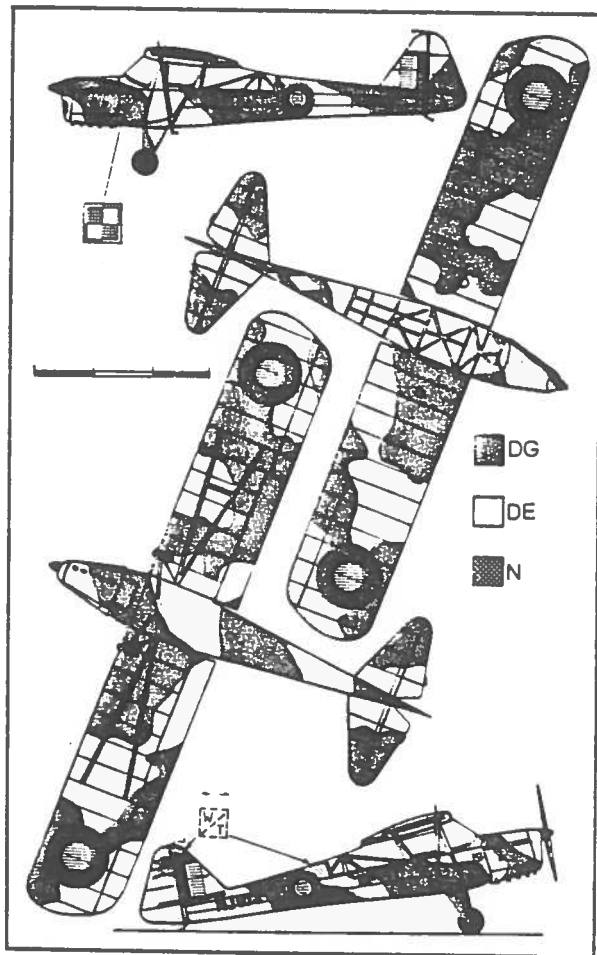
"This book is available from authorized Aerofax, Inc. distributors or from Aerofax, Inc. (P.O. Box 120127, Arlington, TX 76012) direct. Retail price is \$19.95."

(Editor's Note: The superlatives are not out of place here. SAFCH member Jay Miller of Aerofax has produced a book that will set the standard for its genera for a long, long time to come. Get one even if Italeri doesn't produce an A-3, you won't be disappointed.)

News from Aerofax

"Just received the new SAFO about thirty minutes ago and wanted to pop off a note in response to several items therein:

"First of all, SAFO readers might be



Malowanie samolotu Auster Mk.III, NJ913 z 663 Dywizjonu

interested in knowing that Aerofax, Inc. has available a limited number of copies of MIG FLUGZEUGE for sale. The price is \$19.95 plus \$2.50 for postage and handling. We might mention also that we're just starting to get into the book distribution business and among the other titles currently available are THE HAWKER HURRICANE by Francis Mason, THE HAWKER HUNTER by Roy Braybrook, and the CANADAIR SABRE by Larry Milberry. All of course contain material of interest to SAFO subscribers and all are available from us at significant discount off their normal retail prices.

"Anyone interested can call or write and we'll be happy to send along a price list and other information.

"Also, I would like to exercise a little vanity and correct a misconception voiced in good friend Dan Hagedorn's letter on p. 84. LATIN AMERICAN MUSTANGS has indeed sold reasonably well - but it is not yet into a second printing. Nor will it be for several more months, yet. On the other hand, it is one of the very few titles we have printed that has not gone into multiple printings - contrary to Dan's comment. Eight of our more recent titles have, in fact, gone into third and fourth printings, and one is now into its tenth!

"Thanks for giving me a chance to comment. And also thanks for putting out such an outstanding, and inexpensive, reference."

Jay Miller (SAFCH #732), PO Box 120127, Arlington, TX 76012

(Editor's note: Sounds as if some of you haven't yet ordered LATIN AMERICAN MUSTANGS. Do it now, you'll not only get an outstanding book, but you will be encouraging the goals of the SAFCH by supporting an author and a printer who are both members of the SAFCH.)

Overseas Books at a Discount

"I am enclosing a copy of my latest catalog for your information. I'll be happy to send a copy of my catalog to SAFCH members for \$1.00 (usually \$2.00), which is refundable with the first order, and SAFCH members qualify for a 10% discount as well.

"As of January this year, I have retired from the aerospace industry after 28 years and I am now devoting my time to AIR ENTERPRISE PUBLICATIONS. Because of the devaluation of the US\$ versus most other currencies, it has become very difficult to maintain reasonable prices and business has suffered to some degree, although retail sales remain quite good. Unfortunately, foreign publisher have had no special incentive to lower their prices (as a matter of fact, some have raised them!) to attract US customers since the US is such a small portion of their market. Thus, I see no substantial improvement on the horizon. As a consequence, I will be adding a considerable number of US and Canadian publications to my list in coming months to hedge my bets somewhat. Nevertheless, the major thrust will still be imported publications."

Jim Haycraft (SAFCH #192), PO Box 7745, Newark, DE 19714

(Editor's Note: Jim imports books from Australia, Austria, Belgium, Finland, France, England, Germany, Italy, Japan, Poland, Spain, Switzerland, and Sweden. The prices are not that bad. Before the SAFCH discount, the Finnish book on the Bristol Blenheim is \$12.50 and the one on British Fighters is \$14.50; the Ouest France publications (French Profiles) are \$4.50 each; the Waffen Arsenal Series are \$5.00 each; and "Aeroplani SIAI 1915-1935" is \$14.95.

On the expensive side are "Aviones Americanos y Rusos: Aviacion Mundial en Espana" at \$54.95 (worth every penny) and the French "Docavia" series (which are supposed to be something special anyway): "Les Avions Breguet 1940-1971" \$34.95; "Les Avions Dewoitine" \$46.95; and "Les Avions Farman" \$36.95. I encourage you to send away for the catalog; you have nothing to loose expect \$1.00 and you might find this the source for those books you can't get by trade with overseas SAFCH members.)

Austrian Air Force Books

"I have recently purchased the book "Die Flugzeuge der Osterreichischen Luftstreitkrafte vor 1938" by F. Haubner, and here are some details. The two volumes present a really comprehensive review of all Austrian military aircraft used between the World Wars. Altogether, there are about 490 pages with some 350 photos, many drawings, orders of battle, and a list of Dieustnummern. The text is in German. Each volume costs 378,00 Austrian Schillings, but if bought together, the price is only 590,00 Schillings. Prices do not include postage and packing. The address of the publisher is: Herbert Weishaupt Verlag, Postfach 29, A-8047 Graz, AUSTRIA.

"There are other interesting titles in the catalogue, e.g. "Die Fliegerkrafte Osterreichs 1955-1985" by W. Hainzl. I don't have this book, but Mr. Hainzl has written several articles on the Austrian Air Force for AIR FAN and they are outstanding with superb color photos."

Jacques Jost (SAFCH #720), 2 rue Beau Site, 57540 Petite-Rosselle, FRANCE

(Editor's Note: Jim Haycraft has Haubner's books for \$19.95 each (minus 10% discount for SAFCH members). Hainzl's book is listed for \$45.50 with the notation that it has English text.)

Index to Model Periodicals

(Editor's Note: In SAFO #43, I reviewed the most recent issue of the Index, but I did not give the price. Paul Cardwell writes to set things straight.)

"Your filing system is as good as mine. The price is \$8.50. While higher than the previous \$7.95, it is really not a price increase since the size was increased by the same percentage.

"You raised the question of computer disk versions of the book. I have considered it, but have more problems than answers. Obviously, I have the Index on disk, as that is what I use for typesetting, and it takes four Mac disks to do a single volume. However, I find it is easier to thumb through the pages than scroll through the disk and its faster than using the Search mode. Then there is the matter of those diacritical marks that caused me to be so behind schedule in the first place. It would take another disk to provide the MacWrite disk to enable the machine to read my type font. That gets into copyright questions. Then there is the matter of all those computer systems. I am no programer, despite designing my own font. I am incapable of translating it into IBM or even other Apple systems, and I certainly don't want to reset it in each as that is about a six-week job. Unless you have something better, I am afraid a computerized edition is out."

Paul Cardwell, Jr. (SAFCH #266), 111 E. 5th, Bonham, TX 75418

THE POLIKARPOV I-153 IN SPAIN?

A NEW LOOK

Did the Soviet Polikarpov I-153 biplane fighter see action in Spain in the waning months of the Civil War? Although hardly a question of major historical import, this problem has nevertheless been raised and debated by aviation historians ever since the end of the war in 1939. While the case for the use of the I-153 in Spain has been based primarily on the publication of illustrations of this aircraft in Republican markings along with mention of its use in Spain in various articles and books, the validity of this supposition remains in doubt because of the lack of primary documentation.

Review of the Secondary Sources

With the publication of Volume 1 of Justo Miranda's and Paula Mercado's exemplary work on Spanish Civil War aircraft, *AVIACION MUNDIAL EN ESPANA 1936-1939* (1), the question has been raised once again. Published in 1985 and subtitled "Aviones Americanos y Rusos", this first volume of a planned seven volume series, devotes six pages to the I-153 "Chaika", with three pages of drawings in 1/72 scale showing various details of the aircraft, plus a 3-view tone drawing (2) illustrating the aircraft in a Republican color scheme. Inspired by an illustration attributed to Keith Ward, supposedly published in the bulletin of the AAHS (3), which was, in turn, based on information supplied by AAHS member, Clark Macomber, Miranda and Mercado believe that Ward would have required at least two photographs to provide sufficient detail on which to base the illustration and its color scheme. Without doubting the existence of such photos, the husband and wife team of Miranda and Mercado nevertheless feels the scheme is an unlikely one and the code number on the rudder are inappropriate for a Republican aircraft in 1938. (4) Despite their reservations about the color scheme, they believe that it was possible for the I-153 (or its pre-production prototype) to have been in Spain during the final months of 1938, briefly engaging in combat before returning to the Soviet Union.

The question of the I-153's role in the Civil War may have first arisen in 1961 when William Green, the well-known British aviation historian, affirmed its presence in Spanish skies in Volume 3 of his series, *WAR PLANES OF THE SECOND WORLD WAR*, although in later articles on Polikarpov fighters (in 1971 and 1980) he omitted any such statement. Whether this was a deliberate omission based on the author's subsequent inability to find suitable documentary evidence or a simple oversight, it did little to lay the matter to rest and speculation has continued.

The Spanish aviation historian, Salvador Rello, also claimed that the I-153 was in Spain in the final months of the war (5), with the total number not exceeding ten aircraft. More recently, French author Herbert Leonard, in his little volume on Polikarpov fighters (6), mentions a "handful" of I-153s, when summing up the total of Polikarpov fighters sent to Spain during those fateful years.

Salas Larrazabal, in his *AIR WAR OVER SPAIN* (Ian Allen Ltd. 1974), the English language edition of his book, *LA GUERRA DE ESPANA DESDE EL AIRE* (Editions Ariel, Barcelona 1972), offers some confusing and startling information! In a list (in one on many

appendices) purporting to show aircraft types and quantities, both Nationalist and Republican, used until the end of 1938, the I-152 is not listed, although another list covering the period through March 1939 shows 15 "I-15Bs". In a narrative statement accompanying these lists, he states that at least 34 "Super Chatos" numbered from CC-001 upwards were in Spain during the last quarter of 1937, operating on the Teruel front! This would be rather remarkable information, if true! Although it would appear that he meant the last quarter of 1938, this statement perpetuates the original error which appeared in the revised 1972 Spanish edition. He also notes the presence of the I-153 (quantity unknown) in the March 1939 period, without further comment.

The Development of the I-153

The I-152 was the third variation of the basic I-15 "Chato"; a type which had been in Spain since October 1936 when Russian personnel and equipment began to arrive in sizeable quantities. Over 380 I-15 "Chatos" were used by the FARE (Fuerza Aerea de la Republica Espanola) during the Civil War and they made up the major part of the Spanish republic's fighter force. The initial evaluation of its combat performance revealed, that despite a creditable showing against such Nationalist fighter aircraft as the Italian Fiat CR-32 and the German Heinkel He-51, the I-15 lacked sufficient speed and altitude capability to do much more than cope with such competition. Although possessing excellent maneuverability, the I-15 frequently came off second best, especially when pitted against the new Messerschmitt Bf-109 that began to arrive in Spain in the spring of 1937.

Its mediocre combat performance against the new German monoplane was viewed with dismay in the Soviet Union (7), where performance appraisals and critiques were carried out on a continuing basis as action reports from Soviet fighter commanders in Spain were received and evaluated. Although a trend towards more modern monoplane fighter aircraft was certainly well established within the Soviet Union, as evidenced by the development and production of the I-16, many traditionalists still favored the superior maneuverability of the biplane and pushed for improved versions of the gull-winged I-15 (8) almost as soon as it began entering squadron service with the Soviet air force in 1934. Polikarpov and his assistants took up the challenge and the resulting I-152 (or I-15bis) corrected some of the original's more obvious deficiencies. The poor pilot visibility occasioned by the gull-wing configuration was somewhat improved by a more conventional cabane-strut mounted upper wing with a new more efficient airfoil section. The I-15's Shvetsov 635-hp M-25 radial engine, a license-built version of the Wright Cyclone, was replaced by the more powerful 750-hp M-25V with an aerodynamically improved cowl. A fixed landing gear adaptable to skis or spats and a few more minor structural changes completed the modifications.

However, only a modest improvement in performance was achieved. Maximum speed at 3000 m was increased from 360 km/h to 385 km/h but the maximum altitude remained at 9000 m.

The I-152's first combat operations were

flown against the Japanese over Nanking in the latter part of 1937; approximately 200 aircraft having been supplied to the Nationalist Chinese government by the Soviet Union. An additional quantity was assigned to Spain, some 31 aircraft reaching Barcelona by sea in 1938, with approximately 64 others intercepted in France while enroute to Spain via rail. These latter were interned until the end of the war when most were returned to the Soviet Union still in their shipping crates. Some sources aver that two I-152 squadrons were in operation before the end of 1938, but it is more generally believed that it was not until January 1939 that three squadrons of these "Super Chatos" formally entered Republican service. The Spanish I-152 received the code "CC" which had originally been assigned to the early Soviet-built I-15s. Details of the brief combat career of the I-152 in Spain remain obscure, but it was most likely devoted to ground attack missions.

Soviet assessment of combat operations against the Japanese in China revealed that the I-152 still lacked the performance necessary to successfully compete against modern fighters and the decision to pursue yet a third version was made early in 1938. It was quickly determined that a retractable undercarriage was necessary, along with a return to the gull wing configuration, although the advanced airfoil section selected for the I-152 was retained. The potent 1000-hp M-62 radial replaced the I-152's 750-hp M-25V and overall performance was notably improved. Top speed was now 444 km/h at 4600 m with a maximum ceiling of 10,700 m, along with an increased radius of action; performance features that now compared favorably with contemporary monoplane fighters, such as the I-16 and Bf-109. The new I-15ter (or I-153) resembled the original I-15 to a remarkable degree and from a distance, with the landing gear down, it would have been quite easy to confuse the two.

The Legion Encounters a New Fighter

In the autumn of 1938, the bloody Battle of the Ebro was reaching its critical phase and the fate of Republican Spain was now hanging in the balance. After active participation for almost two years, the Soviet Union had essentially written off its Spanish adventure as a lost cause and was then withdrawing its air force personnel, albeit leaving most of their aircraft behind. The violent air battles raging over Catalonia were severely depleting Republican fighter and bomber strength. Although both sides had fought each other almost to a standstill, Nationalist air power, with full support of the Legion Condor, was still paramount and increasing. With the Russians disengaging their personnel from shrinking Republican territory, this would seem to have been an unlikely time to introduce a new aircraft for combat evaluation. Nevertheless, new wings were aloft in Spanish skies and their entry into combat was observed by fighter pilots of the Legion's third squadron and their commander, Werner Molders.

The 25-year-old Molders, who had relieved Adolf Galland as commander of Jagdgruppe 88's third squadron in May, proved to be an inspired combat leader and a gifted tactical innovator. Initially flying the obsolescent Heinkel He-51 on ground attack missions, he and his squadron were soon outfitted with the new Messerschmitt Bf-109Cs and Ds (9) in July 1938. Flying from the Legion's big air base at La Cenia, Molders and his men began to enjoy an increased measure of success flying against harried and

frequently outnumbered Republican forces. By early October 1938, Molders had achieved 11 aerial victories, all I-15s or I-16s except for a sole SB-2, the fast twin-engined bomber invariably referred to as the "Martin" despite its purely Russian origin.

The last day of October 1938 was one of the most action-filled for the German airmen as they continued the struggle for air supremacy over the Ebro front. As Molders noted in his carefully kept war diary; "the war was again blazing in full fury. Today, a new enemy aircraft plunged into battle, quite speedy and with excellent rate of climb. The came up over 8000 m after us, using the same tactics as we did, but not pressing their attack as aggressively as German pilots would if we had our enemies by the nose! Nevertheless, some of our pilots, after being attacked by such opponents, were lucky to return to base safely, with only a few hits." (10) Molders and his men engaged these aggressive new fighters along with I-16 "Ratas" from two additional squadrons that appeared on their flanks. In the swirling combat action that followed, Molders quickly gained the upper hand over an opponent who soon fell out of control and plunged to earth. This 12th victory was quickly followed by a 13th, and Molders relates; "the spell cast by these new adversary was thus broken." (11)

Aside from mentioning a good turn of speed and an excellent climb rate, Molders diary is remarkably non-specific, omitting technical details and other particulars that would have helped to identify this new fighter aircraft. It is strange that the characteristic of the I-153 that would have been most obvious, the retractable landing gear, wasn't mentioned. Thus, we are still left in the dark as to the type of fighter plane Molders and his squadron encountered on that fateful October day over the Ebro, when pilots of 2 and 3/J88 claimed victories over eight I-16s and two I-15s.

I-153 or Superchato?

In his unpublished manuscript, WERNER MOLDERS EN ESPAGNE (essentially a French translation of the Spanish civil war chapters of von Forell's MOLDERS UND SEINE MANNER with additional material apparently abstracted from Josef Foze's memoir, FREIE JAGD VON MADRID BIS MASKAU), the Canadian aviation researcher Michel Lavigne describes the air battles that day in some detail and identifies Molders' 12th and 13th victories as I-153s in the victory list appended to the manuscript, apparently assuming that the new "birds" described in Molders' diary were indeed I-153s.

Perhaps the most authoritative published account of the Legion Condor, Ries and Ring's well-researched and profusely illustrated LEGION CONDOR 1936-1939. (12), identifies Molders' "kills" that day as I-16s in its comprehensive victory list. However, mention is made of the fact that German pilots "again reported the appearance of a new 'Curtiss' type, almost as fast as the Bf-109s. with excellent rate of climb and carrying out their attack at a surprisingly high altitude." (13)

To assign such performance characteristics to the I-152 would appear to be stretching the facts, but the reported arrival of the I-152 in the Barcelona area during the latter part of 1938 may provide a clue as to the origin of this new "Curtiss" type. After all, to encounter a new aircraft, exhibiting admirable speed and altitude performance, apparently close enough in appearance to the familiar I-15 "Chato: to earn the appellation "Curtiss" type, without noting it had retractable landing gear,

would seem to be an oversight of the worst kind for experienced combat pilots. Unless, of course, the aircraft is question had no such distinguishing feature to comment upon!

What were the mysterious fighters that engaged the Legion Condor's Messerschmitts that day over the Ebro? Were they indeed I-153 prototypes hurriedly shipped to Spain to test the validity of the new redesign in combat, then hastily disassembled and returned to the Soviet Union? The Russians were certainly capable of such an operation and would have been keenly interested in seeing what the I-153 could do against their German opponents, testing the advantages, if any, of maneuverability versus speed in a combat environment. They had already tested most of their latest combat aircraft in Spain since their original intervention; why not take advantage of one more opportunity? Some prototypes (and even limited production quantities) of I-153 could have been available as development of the I-153 had begun early enough in 1938 to have permitted a few examples to be flight-ready by October. Transfer of these aircraft to Republican ports still open and their subsequent assembly would have been possible, even at that late date. The lack of photographic evidence is unfortunate but perhaps understandable. Within the shrinking enclave in Catalonia, with the fall of Barcelona imminent, taking photographs was probably not a priority task, and anyway, an I-153 (or I-152) sitting on the ground would have been just another "Chato" to the casual observer. (14)

Until some definitive photographic or documentary evidence surfaces to nail down the presence of the I-153 in Spain, it is doubtful that this final version of Polikarpov's biplane fighter flew in Spanish skies during the latter part of 1938, artistic representations notwithstanding. If published versions of combat diaries can be believed, the Legion Condor's Messerschmitts did indeed tangle with some unfamiliar fighter aircraft over the Ebro front during October and possibly November of 1938. Could they have been the first I-152s, probably with Russian pilots in the cockpits, making their combat debut somewhat in advance of their "official" appearance in squadron strength in early 1939? The German pilot's favorable evaluation of the new aircraft's performance was, of necessity, a very subjective one. Made in the heat of combat, and perhaps compared to the performance of the well-used, hard-flown Messerschmitts of J/88, this new "bird" did indeed appear to be a "hot" performer.

The myth of the elusive "Chaika" will no doubt remain to fascinate the Spanish Civil War aviation enthusiast for years to come. At least, until some obscure archive in Spain or Germany produces faded photograph or wrinkled document that finally sets the story straight and establishes its presence once and for all.

NOTES

(1) Miranda and Mercado, AVIACION MUNDIAL EN ESPANA (GUERRA CIVIL) 1936-1939: Aviones Americanos y Rusos; Silex Ediciones, Madrid 1985. An excellent reference source, especially for modellers. The extensive and detailed 1/72-scale drawings illustrate a multitude of unusual camouflage and markings schemes and the technical and historical information is of considerable value.

(2) The top and bottom views in the accompanying illustration show the usual red

stripes on the upper surfaces of the upper wing and on the lower surfaces of the lower wings; the side view depicts the red stripes on the lower surface of the upper wing, as well. One of the drawings is obviously in error!

(3) A reference to one of the two publications of the American Aviation Historical Society (AAHS), either its quarterly JOURNAL or the NEWSLETTER. Which of the two publications and which issue is not identified and the authors were apparently unable to locate additional information. Another note of interest: A small profile drawing of an I-153 with the same number (8-3) and sporting a dark green/light blue color scheme appeared in Vol. 2, No. 6 1968 of the IPMS/France Journal.

(4) The odd color scheme and number have been suggested as having a post-civil war origin as part of a Soviet propaganda ploy to play up their part in the war. Or, perhaps the scheme is nothing more than artistic license being given free reign; a practice not unheard of.

(5) As quoted in an article appearing in issue #262 of the Spanish magazine FLAPS. Whether Rello or Leonard were reporting the results of their original research or merely repeating what had been published elsewhere is unknown; their sources of information are not identified.

(6) Leonard, LES AVIONS DE CHASSE POLIKARPOV; Ouest France, Rennes 1981.

(7) Boyd, THE SOVIET AIR FORCE SINCE 1918; Stein & Day, New York 1977. Chapter 5, entitled "Stalin's Falcons", briefly, but authoritatively, describes the Soviet contribution to the Spanish air war.

(8) Ibid, page 82.

(9) Not all of the 109s received by 3/J88 were new; some old and frequently repaired B-1s were transferred from 2/J88 and flown for a brief time. Molders wingman, Uffz. Franz Jaenisch, inherited the venerable '6-6' from the 9-victory ace, Herbert Ihlefeld, promptly wiping it out in a crash landing on 7/25/38. Molders reportedly flew '6-7' for a brief period before being assigned '6-79', a new D model.

(10) von Forell, WERNER MOLDERS: FLUG ZUR SONNE; Druffel Verlag, Leoni am Starnberger See, 1976. This is basically an updated and expanded version of von Forell's 1941 work, MOLDERS UND SEINE MANNER, which was published just before Molder's death in November of that same year. The extracts from Molders' war diaries are essentially identical in both books.

(11) Ibid, page 71.

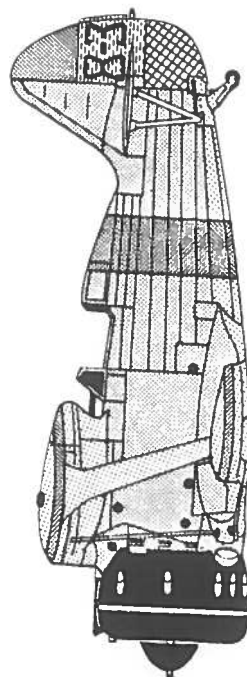
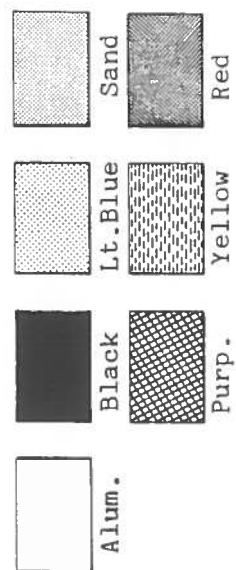
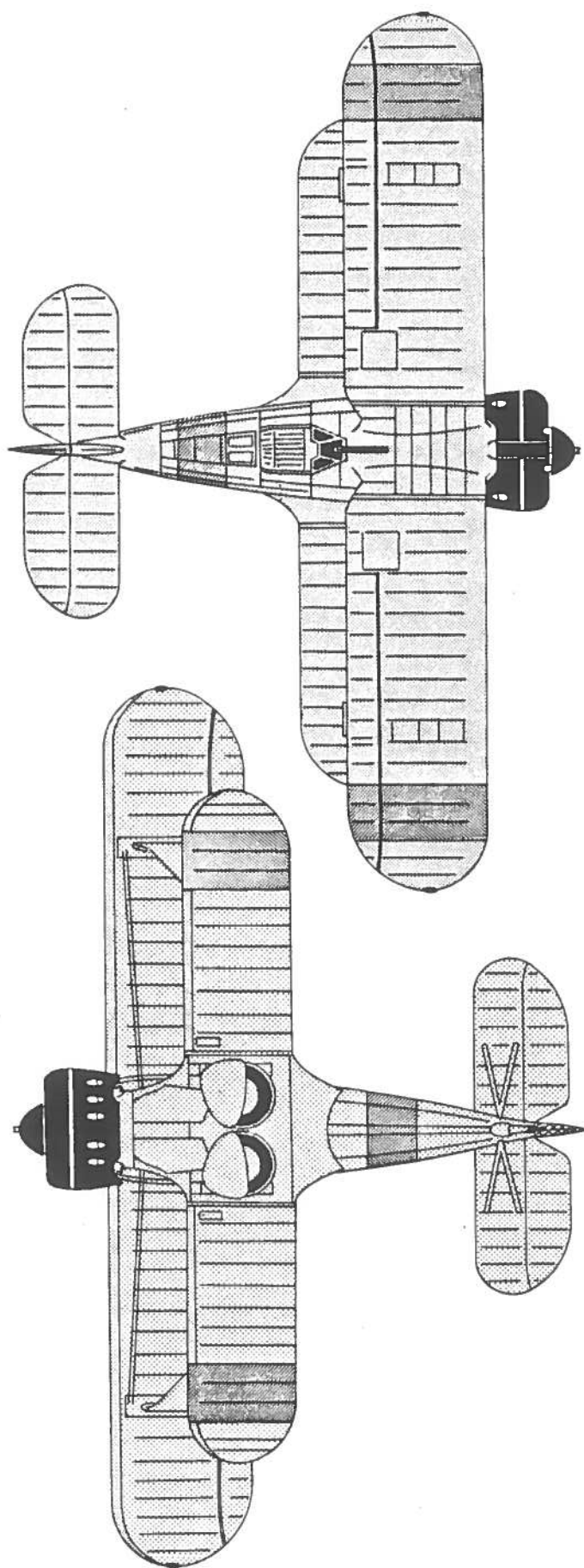
(12) Ries, and Ring, LEGION CONDOR 1936-1939: Eine Illustrierte Dokumentation; Verlag Dieter Hoffmann, Mainz 1980. This large-format volume contains a wealth of superbly reproduced, previously unpublished photographs, both of aircraft and personnel, coupled with an extensive, well-researched text and many fact-filled appendices. An indispensable reference source, but not error free, by any means!

(13) Ibid, page 200.

(14) A pristine I-153 in Soviet colors and markings is displayed in the Musee de l'Aire at Le Bourget, near Paris. Captured in Russia by the Luftwaffe during World War II, this example has often been claimed, without factual basis, to be one interned in France after the capitulation of Republican Spain in 1939.

James B. Haycraft (SAFCH #192), 214 Kenmark Dr., Newark, DE 19713

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Spanish Polikarpov I-153?

IRANIAN ISLAMIC REVOLUTIONARY AIR FORCE

F-5E TIGER II

I was working on a cable project in Iraq and staying in Baghdad when, one morning in the summer of 1982, I was awoken by two Iranian F-5s as they roared over my house. The Iranian aircraft were being hotly pursued by two Iraqi fighters. It sure woke me up, no kidding! That evening, it was announced on the news that one of the Iranian F-5s had been shot down.

It wasn't until 1983 that I discovered the Iraqi War Museum, in Zawra Park, Baghdad, where captured and wrecked Iranian hardware was on display. The enclosed drawing is based on first-hand examination of a wrecked aircraft in this museum. The drawing shows an Iranian Islamic Revolutionary Air Force F-5E Tiger II 73-976 (3-7056) that was shot down over Iraq sometime in the 1980-1983 period. Perhaps it is the one that served as my "alarm clock" that memorable morning.

Apart from the standard Iranian green/white/red roundels, all markings are black. The '3-7056' and the '2' in a circle on the starboard side are in stencil style, while all other numbers and lettering are in standard style. Yes, the markings are different on the two sides of the aircraft. The size and style of the number on the port side of the nose are pure guesswork. They may even have been arabic numbers, but I think that is unlikely.

[Editor's Note: A color side-view drawing of an Islamic Republic of Iran Air Force F-14 appears in August 1987 issue of AIR INTERNATIONAL. The view shows that the starboard side and the markings are different than those described here. The serial on the fin '3-863' is in English, but the stencil letter 'IIRAF' appear below the cockpit and the arabic numbers for '3-863' appear on the nose.]

Other wrecks on display at the museum include: 73-967 (3-7047), 73-978 (probably 3-7058), and 74-1390 (3-7090); all apparently marked similar to the aircraft in the drawing. Parts of 3-7127 (possibly 74-1427) are also on display.

On 19 August 1982, F-5E 73-944 was shot down south west of Basrah, killing the pilot Captain Hosheng Mudhafari. Iraqi TV coverage showed the wreckage which was marked 3-7023 (or possibly 3-7027) and had a small red marking on the fin as per the scratch-view drawing. Other marking appeared to be similar to 73-976.

Major section of an F4D (serial unknown) are also on display at the museum, but the fin and nose are missing. However, it seems likely that the Iranian F-4s would also have different markings on each side.

Leif Hellstrom (SAFCH #786), Servituts-vagen 3, S-145 59 Norsborg, SWEDEN

-letters-letters-letters-letters-letters-letters-letters-letters-letters-letters-letters-
(Continued from page 107)

"I have a few correction regarding the MiG Mania series: (1) I am sure that MiG-15bis '1012' (drawing 107) had a red serial. As I have never seen a Polish MiG with a black serial, I assume that drawings 108, 110, & 111 should all have red serials. (2) A mistake repeated on all of the drawings of Polish MiGs concerns the upper surface insignia. Most post-war Polish aircraft, particularly the MiGs, have the national insignia in 6 positions: two each on the wing undersurfaces, fuselage, and vertical stabilizer. Some MiG-21s and -23s have the insignia only on the four former positions with the insignia on the undersurface of the wings completely omitted. (3) The Pakistani Shenyang F-6 Farmer serial '10426' (drawing 106) should be a late production version equipped with break-chute housing above the exhaust. Source: Aircraft Modeling's PAF Special."

Daniel Petz (SAFCH #807), Na Ladvi 21, 182 00 Praha 8, CZECHOSLOVAKIA

Bulgarian & Czechoslovak Insignia

"I have seen here in Prague another style of Bulgarian insignia. It was on an Antonov An-26 and consisted of the classic red star with red and white outline, but the cockade is (from the outside in) red/green/white instead of the more common green/white/red!

"On another subject, the Czech national insignia is often shown in the wrong orientation. The insignia is always used with the blue leading and the red towards the inside on the wings and to the bottom on the fin. There were some exceptions, i.e. Slovak Insurgent Air Force 1944, but at the present time no exceptions exist."

(Editor's Note: No, the writer does not want to remain anonymous, I just misplaced his name. My sincerest apologies to the author. I

really appreciate his comments; the proper orientation of Czech roundels has been one of my crusades ever since I published my first article on Czech aircraft in the IPMS/USA QUARTERLY back in 1970. There were other exceptions, usually on aircraft marked outside of Czechoslovakia. These exceptions would make a great article for the SAFO. Any of our Czech friends want to give this a try?)

News from NAS Norfolk

"During July and August, Swedish C-130's visited Naval Air Station Norfolk, Virginia, three times. Two of the aircraft were serial numbers 846 and 848; they were painted dark green with light gray undersides, with large yellow serial numbers on the tail, repeated in small numerals by the cockpit. "SWEDISH AIR FORCE" was painted in yellow on the forward fuselage, level with the wing. Propellers were aluminum with black cuffs and yellow tips.

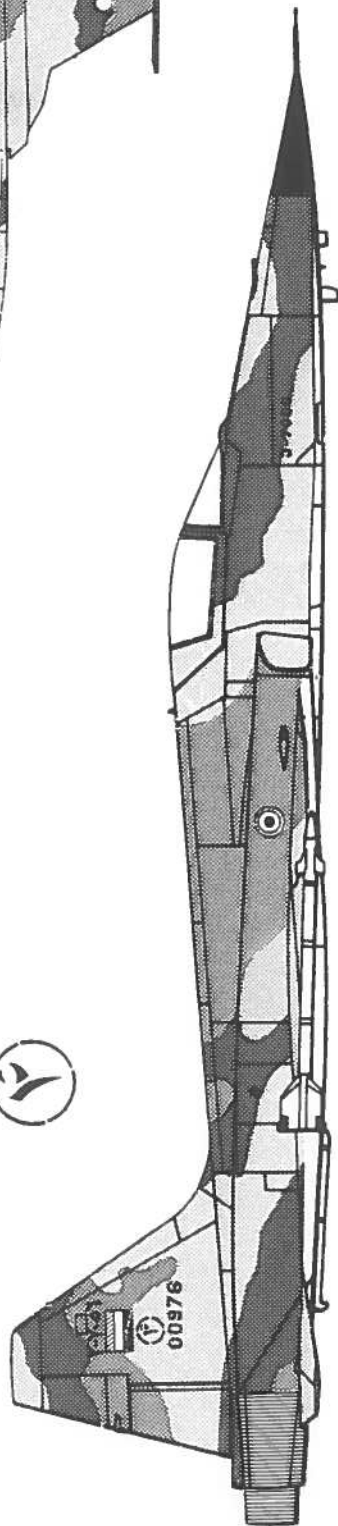
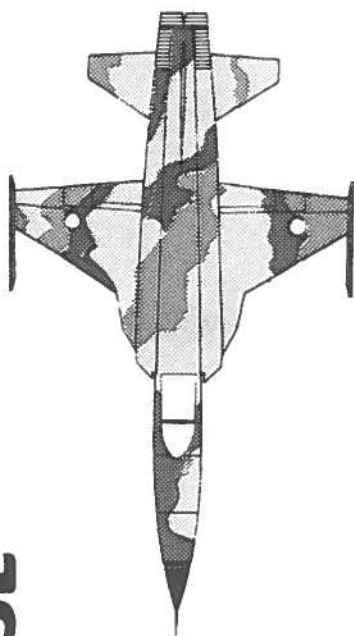
"A Canadian CP-140 Aurora (Lockheed P-3 Orion variant) flew out 8/25. Serial number 140114, it was painted in a tactical dark gray over light gray pattern, with white wheel hubs, black antennas, and a bare-metal MAD (Magnetic Anomaly Detector) tailboom. Insignia (maple leaf roundel and flag on tail), propeller warning stripe, and "CANADA" were in opposite grays - light on dark, dark on light.

"With two Italian Navy destroyers visiting, an Augusta-Bell AS-212ASW helicopter, serial 7-42, was shore based here. The helicopter was overall dark gray, with orange tail boom ann nose, black radome above the cabin, and "MARINA" and "7-42" in white.

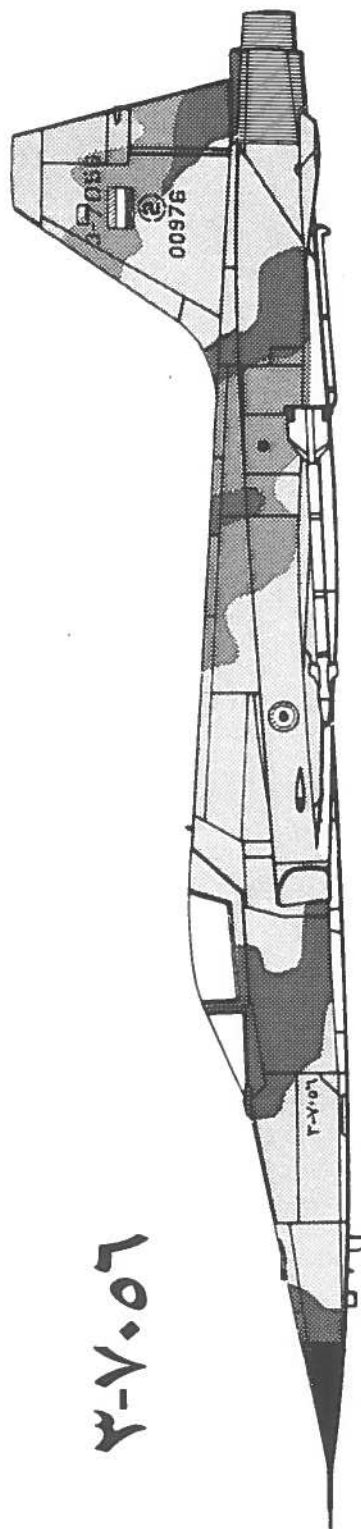
"A Luftwaffe C.160 Transall was present today (9/1), but it took off before I got a chance to get down to the flight line to check its serial number."





W, H. Lee (SAFCH #454), 5556 Annandale Dr., Virginia Beach, VA 23464

IRANIAN F-5E



Y-V.07



	34078 Green
	30140 Brown
	20400 Tan Special
	36622 Gray

SCALE 1:72

Leif Hellström (SAFCH786)